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ART's Treasury of RARITIES: AND *Curious Inventions.*

In Two PARTS.

PART I. Containing the Mystery of Dying Cloth, Silk, Stuffs, Hair, Feathers, Bone, Horn-work, Leather, &c. and to prepare and use them. To prepare and colour Skins of Leather, or Guild them with Gold, Silver, or Lacquering, &c. To dye Bristles, Hair, Marble Paper; to recover faded Colours in Cloth or Silk, and to take out Spots or Stains of Tar, Rosin, Grease, Oyl, &c and preserve them from Moth and Worms. To scower Silver and Gold Lace and Plate: To Cement broken Glass and China, and to make Perfumes, &c. The Art of Drawing, Limning, Painting in Oyl and Japanning, and Tanning Leather, Etching, Graving, Writing, Gilding Enamelling. To make sundry Colours, prepare Gums and Allom-water; to thicken Linnen, colour Maps and Pictures.

PART II. Containing the Generation of Metals, Natural and Artificial, and to Solder, Gild, and to harden and soften them. To cleanse and perfume Gloves washing and starching Lawns, Sarsenets Tiffany, and Lutestrings,

With divers other CURIOSITIES.

The Fifth Edition.

London: Printed for *G. Conyers*, at the *Ring* in *Little-Britain*. Price 1*s*.

18.7.06



William Reynolds Lloyd.

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[By John Wolrich]

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TO THE READER.

READER,

THIS Book *hath been kindly Receiv'd, as appears by this being the* Fifth Edition *containing Variety of* Curious Inventions. *Useful. Pleasant and Profitable. The Multiplicity of Curiosities, I cannot in so small a Compass acquaint you with but a few I shal Insert by way of a* Table *but many more thou wilt find in the Book which I desire thou wouldest read over,*

J White.

BRITISH MUSEUM 30 JUN 68

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ART'S TREASURY;

BEING

Modern Curiosities.

18.7.06

CHAP. I.

The Art and Mystery of Dying Silks, Stuffs, Cloth, Feathers, &c. in the most Curious and Delightful Colours, with the Manner of Ordering, Making and Preparing them, &c.

SO pleasing to the Eyes of Mankind are the various Colours that we daily or frequently behold, that they in a manner captivate and detain even the Fancy it self with Wonder and Delight. Wherefore I have thought it highly convenient amongst the many stupendious Secrets and Curiosities this Book contains, as well tending to Profit as Pleasure if duly practised to place the Art of Colouring vulgarly called Dying, in the beginning, as an Introduction to the rest it being much wanted, and frequently covered by publick and private Persons to be known, and rightly managed. Wherefore for its better Improvement, take the following Rules and Directions

To prepare Raw Silk Take your Raw-Silk and put it into a Bag, that it may not entangle; then

to every Pound of this Raw Silk, add a quarter of a pound of Soap, let this boil together two Hours, then take it and cleanse it well, and it is ready for all sorts of colours being first Allomed.

Another Way to prepare Raw Silk. Take it, and smear it well and thoroughly, putting to every pound of Silk, a quarter of black or green Soap, put it into a Linen Bag, and let it boil 6 or 7 Hours, then take out the bag and cool it, that you may handle it the better. after this Rince it in a River or Runing-Water for 15 Minutes. Beat the Water out very well, and then Rince it again; then dry it, and it is ready to Dye. Observe that this Preparation is absolutely necessary for all Raw Silks before they can be dyed.

How to Allom the boiled silk Take a quarter of a pound of Allom, to every pound of Silk, melt it in a Skillet, when done, throw it into a Kettle or tub of water into which put the Silk to steep 12 Hours or more Observe carefully the just proportion of Silk and Allom

To dye Red Silk To prepare your liquor or sud right, take four handfuls of wheat Bran to every pound of Silk, then put it into 6 or 7 Gallons of water, then boil them and pour the liquor into a tub, letting it stand 12 or 14 Hours, then clarify it, and take half of the Water, into which put 8 ounces of Allom, 4 ounces of Tartar of Red wine, beaten to a fine powder, and half an ounce of Turmerick, finely pounded, boil them together a quarter of an Hour, stirring them well take the Kettle then of the Fire, and put the silk immediately in, covering the Kettle very close, that the steam may not fly away, thus let it stand 3 Hours, and then take the silk and rince it very well in cold Water, then upon a block beat it very well and let it dry This done take 4 ounces of Gilis, beat them small and put them into a Pail of River or Rain water, and boil them 60 Minutes or somewhat more, then take

the Kettle off the fire, and when it is ſo cool as your Hand can bea it, put in the ſilk and let it lie an Hour, ſo take it out and let it dry.

Silk to die a crimſon Colour. To your ſoaked or prepared ſilk, put to every pound one ounce and a half of Cochineal, beat to fine powder and ſifted thro' a hair ſieve, put it into the remaining pail of Liquor laſt mentioned, and hang it over the fire again, then put it with the Liquor into a beef Kettle, covering it very cloſe that no dirt may get in, and hang it over the fire again, and put to it an ounce and a half of white Arſnick and of Tartar two ounces and a half, both pounded fine, boil them together a quarter of an hour, then take it off the fire, and when it hath ſtood a ſmall time put in the ſilk, ſtiring it about well, that the colour be not variegated when the Liquor is cold, then wring the ſilk out and if it is not dyed enough, hang and dye again over the Fire, and put in the ſilk, after it is beaten as before, when the ſilk is dyed, it muſt be rinced firſt in hot ſuds, made of water, and half an ounce of *Venice* ſoap in proportion to every pound of ſilk diſſolved in it, and afterward in cold river water, then beat it upon a block and hang it to dry, upon which being ſpread abroad, wound and managed according to cuſtom, it becomes of a very good Crimſon. If you would dye Crimſon from a Violet Ground, you may abate a third part of the quantity of the Ingredients, that is a pound of ſilk ſo grounded requires but of Cochineal one ounce, as much of Arſnick and of Tartar two ounces.

A Crimſon dye. When your ſilk is well boiled, to every pound of ſilk take of crude Allom eight ounces, when that is diſſolved, lay the ſilk in the Liquor one Night, the next Day rinc it well, and afterwards died as followeth. Take a Kettle of clear Water, and to every pound of ſilk put in together of Cochineal two ounces and a half,

beat

beat very fine, of beaten Galls 3 ounces, 3 ounces of Gum purified, an eighth part of an ounce of Turmerick, boil the ſilk in this Liquor. Two hours after this is done, let it remain 12 hours, after this wring and dry it.

Red, a cheap way. To every pound of ſilk take one pound of Braſiel, boil it and ſhave it, then afterwards boil the wood putting cold water to it, then turn or wave it about, and take it out without wringing, and ſtir it about in the other Liquor, till it hath ſufficiently taken the Tincture, then add a little pot-aſhes, or put them in cold Water, and turn the ſilk up and down in it, and when it's red enough rince and dry it.

To colour or dye Wooll, or Woollen Cloth a curious Red Take a conſiderable quantity of Allom, and diſſolve it in Water, wherein Bran has been boiled and ſtrained out, putting the Cloth, Wooll or Yarn to ſteep in it, which being well ſteeped, put it into other clear Water, heating it over a gentle Fire, putting thereto greening Weed two pounds to four gallons of Water, ſtirring it about, but not ſuffering it to boil; add more, a handful of unſlack'd Lime, and as much Wood-Aſhes, ſtirring about the Materials, adding yet a like quantity of Aſhes, and a pound of the powder of Log wood, or Red wood, and the like of Brazile, and ſo in three or four hours time a very fair Colour to your Satisfaction will be taken

To dye Linnen, Thread, or Cloth red &c. Take a pound of Sam-fleure, and ſuffer it for the ſpace of twenty four hours to ſoak in two gallons of Water, heating over a gentle Fire; then add half a pound of the powder of Brazile, two ounces of Vermilion, and an ounce of Allom, diſſolved in a pint of fair Water.

To dye a clear, or pleaſant light Red Take Wheat Bran half a peck, two ounces of Allom, and boil them in four gallons of fair Water, then through a fine hair Sieve ſtrain out the liquid part, then diſſolve

diſſolve in it half a pound of Allom, and the like quantity of white Tartar, and put in the Stuff, Cloth, *&c.* intended for colouring, adding three pound of Madder, and perfect the Colour in a moderate heat, without boiling.

To dye Silk a ſanguine Colour. Take a pound of Allom, and two pound of greening Weed, bruiſe them well, and pour upon them fair Water; add then half a pound of ground Brazile, heat them over the Fire, and put the Silk in ſome part of the liquid Matter, ſuffering it to ſeethe therein, and ſo renew it with the remainder, till you find your Colour take, and having ſo done three times, rinſe it in Lee of Oak-bark, or Wood-aſhes, and afterwards in Water.

To dye a fair Blue Take white Silk, Stuff or Cloth that is white, and ſoak it in Water, then having wrung the Water out, add two pound of Woold or Woad, a pound of Ind co, and three ounces of Allom, and then gently heat and diſſolve them in the Water, and ſo dip your Materials till you perceive the Colour has taken.

To dye a Purple Colour. Take the Silk, Stuff or Cloth that has already taken a blue, and dip it in Brazile and Allom-water, at moderate heats; and you will ſoon perceive your Colour anſwer your Expectation.

To dye Carnation. Take a dry Purpure, and ſoak it a Night in Man's Urine; then take your Cloath that has been ſoaked in Allom-water, and dry'd again, and put it therein, ſuffer the Purpure beforehand to be twice ſeethed in fair Water; then ſet another Veſſel by the Fire, and ſuffer the Cloth to take the Dye therein.

To dye a deep red Carnation. Take Linnen and Woollen white, Gall and Allom it well, and take the Herb call'd by the *Dutch* Foli, which is to be found on the Banks of Ditches, to the quantity of a pound well dry'd; *Indian* Lake four ounces, *Spaniſh* red two ounces; make of theſe

and

and Allom-water a hot Liquor, and dip your Materials therein, at gentle heats, three or four times and it will afford a curious Colour

To dye Silk Quoins a curious red Steep first your Silk in Allom water, giving it a gentle heat, adding thereto in the heating, Bran-water; then take a pound and a half of greening Weed, and so beat it up and put the Silk therein, but let it not seethe, then take it out and rinse it in Ley, and after that in Water, adding some powder of Log-wood, and so heating it up a second time, the business will be perfected

To dye a fair Yellow Take the Stalks, Leaves and Seed, *&c.* of Woad, the roots being cut off, and lay them in soak in Ley of Wood-Ashes for the space of three hours, after that seethe them into hot Water and Urine, and heat them up indifferent well, straining the liquid part thro' a Sieve, adding to every two pounds of Woad, two pounds of Verdigrease, with the Ley already sod, stirring and well mixing it together in your Liquor, for the space of three hours, and so dip into it very hot at three or four times what you intend to colour.

Another way to dye a curious Purple, viz. In case it be Silk you intend to dye, you must to one pound of it take four ounces of Allom and a gallon of Water, dissolving the Allom therein over a gentle Fire, putting then the Silk therein, and suffering it to lie for the space of four hours, then take of *Indian* Lake and Indico, each a quarter of a pound, and likewise a quart of Urine, and so heat them up into a Dye, adding about a handful of Cochinele

A curious green Water to make. Take half an ounce of Verdigreace, bruise it well put thereto the yolk of an Egg and a few blades of Saffron; then take of the leaves of Spurge half a handful, bruise them with a quarter of a pint of Cinegar, straining the liquid part thro' a Cloth and mingle

mingle it with the Materials before-mentioned, ſo thin that it may take, either in Dying or Painting.

To make a black Water to dye Silk, Cloth, &c. Take half a pound of Nut-galls, add to them a pottle of Water, and an ounce of Lamp-black, with a handful of the ruſt or filings of Iron, beat them up adding half a Pound of Copperas, ſeethe them to a half Conſumption, adding then a pint of Gum water, and ſo ſet it by for your uſe, *&c.* and it will prove excellent good; the longer it is kept it is the better.

To dye Linnen or Silk, a Roſe-red Take to every four yards and a half, a pound of Nut-galls, and ſeethe them in fair Water unbruiſed, for the ſpace of two hours, when pouring out the liquid part into another Veſſel or Vat, put your Linnen, *&c.* into it and ſuffer it to ſoak for the ſpace of four hours; then wring it dry and heat it again in Allom and fair Water, adding half a pound of Brazile Powder, and a pound of greening Weed, and ſo by gentle heats make up your Colour to the heighth

To dye a fair Green Take Bran-water and Allom, a gallon of the former to a pound of the latter, and ſeethe them up till the Allom is diſſolved; then for about a quarter of an hour let your Silk or Cloth lie therein; then take more Bran-water and a few handfuls of Woad, and put it therein, till it become a dark Yellow; then add Verdigreaſe and Indico, of each half a pound or more, or leſs of the one or the other, as you would have it lighter or darker.

To dye a good Black Take two pound of Galls, and half a pound of Copperas, ſeethe them in Water over a gentle Fire, putting your Silk, Stuff or Cloth therein, and ſtirring it about; then hang it to dry, and prepare your Dye in this manner, *viz.* Take a large Vat, and put therein three or four handfuls of Rye-Meal, and half ſo much

much of Swarf of the Grindstone, or Smith's Water, with two handfuls of elder bark, and the like quantity of the rust of Iron and having suffered it to stand for the space of three days, heat it up, and put your Materials therein

To make a thick Water to work on yellow Silk the best Way. Take two quarts of the best Varnish add to it an ounce of the Flower of Sulphur, half an ounce of Camphire; then seethe it a while, and suffer it to cool, straining it thro' a Cloth to take away the grosser part; and when you use it, let it be mixed with a small quantity of Gum Arabick-water.

To make a curious red Water. Take two quarts of fair Water, four ounces of Gum Arabick a pound of faucet Woad, seethe them together till half be consumed; and then taking it off, put into the remainder half an ounce of *Spanish Green*, and about thirty grains of Cochinele, and so use it as you see convenient.

To make a curious blue Water for Silks, Stuffs or Woollen Take three parts of Soap boiler's Ashes, and one part of unquench'd Lime, make of them a Ley, and suffer it well to settle, then add to the thinner part taken off, a pound of Bohemen, stirring them well together over a gentle Fire, adding a pound of Woad and half a pound of Indico, dipping what you intend to colour therein when it is very hot.

To work on yellow Silk, white, grey, or azure Colour Take a pottle of fair Water, and a fourth part of Gum-Arabick, and half a pottle of faucet Woad an ounce of Arsnick, and the like quantity of Turmerick ground small, and seethe them over a gentle Fire, putting a small quantity of Grains therein and so apply it to your Use as you see convenient

To make a red Water for white Silk or Wooll, green, yellow, violet or azure. Take two quarts of running Water, and an ounce of Brazile, heat them up till half be consumed; then take it off the Fire

Fire, and put in an ounce of Grains, and a quarter of an ounce of Gum-Arabick, with a quarter of a pound of Allom Powder and ſuffering it to ſtand all Night in the Morning you may uſe it.

To make grey Florey. Take Florey and ſoak it twenty four Hours at the end of which, wring it through a Cloth; then take the Ashes of the Vine, and make a Ley with them, and ſpread the Florey for the ſpace of two Hours upon a Table, and having put the Ley into three Veſſels, take the Florey, and put it into one of the ſaid Veſſels and ſo Shift it to reſt, putting before you dip your Linnen, *&c* Vinegar to it, and your Colour will be good

To dye Linnen with Crampmede. Uſe in this a pound of Crampmede to three ells of Linnen, and put it to a gallon and a half of Water or ſo proportionable to the quantity, and warm it over the Fire, till it appears ready to ſeethe; then, add to it two ounces of Galls, and ſ put your Linnen into it, and as often as you take it out, which muſt be frequent, wring it, then having a Pot of fair Water ready heated with Allom diſſolved in it, put the Linnen well wrung into it, and to rub it over at the taking out, and dry it; but if you would have it the darker colour, then it is requiſite to have a Ley, made with Limeſtones or unſlack'd Chalk, *&c.*

To dye Velvets or other Things requiring it, the moſt curious of blacks. Take of Galls two pound, Copperas half a pound, ſmith's Water a gallon, the powder of burnt Ivory an ounce and of Oak-Bark and Shoemakers Black ground to powder, the like quantity, and two gallons of fair Water, mix them well together and ſuffer them to ſtand in the Sun, or ſome other warm place, for the ſpace of thirty Days, with often ſtirring about; then put your Materials therein, and as often as you dip, hang to dry, and your Expectation will be anſwered.

To

To make Bran Water much uſed in Dying, &c Take half a pe k of Wheat Bran, and two gallons of fa.r Wa.er ſet them on the Fire, giving them a gentle heat, which being done, put half a pound of Allom-powder into it, and ſuffer it to ſtand a Week or more, with ſometimes ſtirring it about before you uſe it

To dye Wooll or Woollen Yarn Take four pound of Woo or Yarn, two pound of Woad, putting the Woad into a Kettle to two gallons of Water; then throw in two handfuls of Wood-Aſhes, and when it ſeetheth, put your Wooll or Yarn into it, and let it remain there about half an hour, at what time take it out and wring it, and put it in again, and let it ſeethe as long as before; and then if it be before a brown Blue, it will be a dark Green; or if it was white, it will be a yellowiſh Colour. And thus much at preſent in relation to Colours for Dying Silks or Cloth.

For a light Green. Take the Juice of the Herb call'd Horſetail, add to it a little Allom, Verdigriſe and Copperas.

To cover or dreſs Skins with Gold or Silver. Grind brown Red with a Muller on a Marble Stone, add to it a little Water wherein Chalk has been diſſolv'd, and lightly go over the Skins till they look whitiſh, and before they are dry lay on the Leaf-Gold or Silver a little lapt one over another, that no ſpace be found wanting; when they ſtick well to the Leather and are dry, poliſh and it will give a very glorious Luſtre The Silver you may go over with a Lacquer Varniſh, and change it into a Gold Colour.

Or another Way, Take Glare of Eggs or Gum-water, bruſh the Skins over with it, ſo lay on your Leaf-Gold or Silver, doing as before.

CHAP.

CHAP. II.

The moſt curious Art and Method of Colouring Skins, or any Pieces or Parcels of Leather, or Briſtles; as alſo of Guilding Leather with Gold, Laying with Silver, or Lacquering, &c.

To Colour Skins Green.

TAKE the Leaves of Night-ſhade, bruiſe them in a Mortar, ſtrain out the Juice, and diſſolve in a Pint two ounces of Allom, add half an ounce of Verdigreaſe, and heat them gently over the Fire, and then ſuffering it to ſtand for twenty four Hours, ſtrike over the Skin with it warm, and ſuffering it to dry, do it again 'till it has taken the Colour, which will be very lively.

To colour Black Leather, after the Order in Germany, *&c.* Take of the Bark of Elder two pounds, of the Filings, or Ruſt of Iron the like quantity, put to them two gallons of Rain-water, and ſtop them up cloſe in a Cask, or other Veſſel, and ſo ſuffer them to ſtand for the ſpace of two Months; then put to the liquid Part, a pound of Nutgalls beaten to Powder, and a quarter of a pound of Copperas, heating them over the Fire, and ſuffering to ſtand twenty four Hours after, and ſo uſe them with a Bruſh, 'till the Skin has taken an excellent Black.

To colour White Leather, the beſt Way. Having hung your Skins in Chalk, or Lime-water, 'till they are grown ſupple, that the Hair, or Wool, may be ſtripp'd off, ſtretch them on Tenters, or by Lines, and ſmooth them over; then take your Colouring mixed, according to the Purport of what you intend they ſhall take, and having firſt bruſhed them over with Allom-water very warm, give them the Tincture, and dry them in the

Sun or in ſome warm Houſe, and they will be uſeful on ſundry Occaſions, without any further trouble.

To make White Leather Blue. Take the Berries of Elder a quart, ſtrain out the Juice, and boil it with an ounce of the Powder of Allom, and half an ounce of Indico, or Smalt Blue, and bruſh over the Leather with a fine Bruſh dipped therein three or four times, ſuffering it to dry between Whiles, and the Buſineſs will be effected.

To colour Leather a fair Red. Having rubbed your Leather well with Allom-water, or Allom'd it, take ſtale Urine, ſeeth it and ſcum it 'till half be waſted; put then to it an ounce of the fineſt Lake, with the like quantity of Brazile in Powder, an ounce of Allom, and half an ounce of Sal-Armoniac, mix them well, and keep them ſtirring over a gentle Fire about two Hours, and ſo uſe the liquid Part, and your expectation will be anſweted.

To colour your Leather a curious French *Yellow,* Take one part of Chalk, and another of Wood-Aſhes, and make thereof a good Ley; then ſtrain out the fine or liquid Matter, put it into a Veſſel over the Fire, and put into it Turmerick in Powder, and a little quantity of Saffron, and ſo ſuffer it to ſimper 'till it becomes pretty thick; then ſet it to coolling, and as you have occaſion uſe it, as before mentioned.

To colour Spaniſh *Leather,* &c. Take that which the *Dutch* call *Pomplemelch,* warm it, and rub the Leather therewith, then take of *Venis tot Appelen,* and having beaten it ſmall put a conſiderable quantity of fair Water to it, and let it ſoften over a gentle Fire, then preſs out the Water, and ſo in the liquid part rub or waſh the Skin, doing it ſo often; and after that, take Shoemakers Black, the fineſt, and rub over the Skin with it, having in the wetting added to it a little

a little Vitriol, or Copperas, and ſuffering it to dry, take *Gooſe* or *Hogs* Greaſe in a woollen Cloth, and rub the Skin over for a great ſpace, where there is a good Fire to ſupple it in; and then rub it over with your Hands, 'till it diſappear; or, inſtead of Greaſe, Linſeed or Train-Oil may be uſed, and ſo in caſe of any other Colour, according as the Colours are deſigned.

To dye Briſtles a curious Red for Bruſhes. Take an ounce of Brazile-Wood in Powder, half an ounce of Allom, a quarter of an ounce of Vermilion, and a pint of Vinegar, boil them up to a moderate thickneſs, and dip the Briſtles in when it is very hot, ſuffering them to continue for ſome time in the Liquor, and they will be of a curious Red

To dye Briſtles, or Feathers, a curious Green, &c. Take of Verdigreaſe an ounce, Verditur the like quantity, Gum-water a pint, mix them well together, and dip the Briſtles, or Feathers, they having been firſt ſoaked in hot Water, into the ſaid Mixture.

To dye Briſtles, or Feathers, Blue. Take an ounce of Indico, as much of Biſſe, as much Allom as a Hazel-nut, put them into Gum water, and dip the Materials in o i hot, hang them up to dry, and c'ap them well, that they may open And ſo changing the Colours you may in this manner dye the aforeſaid Materials of any Colour; as for Black, uſe Logwood and Galls; for Purple, Lake and Indico; for Carnation, Vermillion and Smalt; for Yellow, Berries and Saffron, with a little Tartar mingled or diſſolved in your Gum-water.

To dye Ivory, Bone, or Horn, a curious Red. Take the Materials and ſoften them in Water wherein Tartar has been diſſolved; then take Vermilion and Braſil, temper them well in Water, boil them up in a Liquor, put your Horn, Ivory, or Bone, into it, and ſuffer either of them to be there, it being hot, for a convenient Time,

and taking them inſtantly out, caſt them into cold Allom-water; and if they have not taken the Tincture at firſt, uſe them in the like manner a ſecond Time, and ſo proportioning the Colours you may, in this manner make them take what colour you pleaſe.

To marble Book, or Paper, the beſt way. Take four ounces of Gum-Arabick, diſſolve it in two quarts of fair Water; then provide ſeveral Colours mixed with Water, in Pots or Shells and with peculiar Pencils to every Colour, ſprinkle them by way of intermixture upon the Gum-water, which muſt be in a Trough, or ſome broad Veſſel; then with a ſtick curl them and draw them out in ſtreaks, to as much Variety as may be; which done hold your Book, or Books, cloſe together, and only dip the edges in on the top of the Water and Colours, very lightly; which done take them off and the plain Impreſſion of the Colours in mixture will be upon the Leaves, doing as well the ends as the front of the Book in like manner; and in this caſe you may do Paper, by dipping in it on the flat, as alſo Linnen Cloth, *&c.*

To dye or colour Horſe-Hair, or any Hair, &c Steep it in Water, wherein a ſmall quantity of Turpentine has been boiled for the ſpace of two Hours; then, having prepared your Colours very hot, boil the Hair therein, and any Colour black excepted, will take, but that will only take dark Red, or dark Blue, *&c.* And after this manner, with Colours cold, or but luke warm, you may dye the Feathers upon the backs of Poultry, wild Fowl, Hair on Dogs, Horſes or the like, in as much Varieties as your Fancy can ſuggeſt.

Another, fair Red on Skins, &c. Wet your Skins or Fells, in Allom-water, in which has been diſſolved a like quantity of Salt, with half as much Lime, when being again ſtretch'd and dry'd, take

take the laſt of Brewers Drink a quart, put into it an ounce of Brazile Powder, a quarter of an ounce of Vermillion, and an ounce of Allom-powder, thicken them over a gentle Fire, by continual ſtirring. and ſo with a Bruſh, or Cloth, rub over the Skins at an evenneſs, not laying it thicker on one Place than another, and ſo do three Times ſucceſſively, ſuffering them only to dry the mean while, and your expectation will be anſwered.

To dye Skins a Crimſon Colour, &c. Scrape hard Soap three ounces, and diſſolve it in fair Water, and add to that three ounces of Allom, boil them over a gentle Fire 'till the Water grow clammy, or a little inclining to thickiſh; then put in a few grains of Cochinele, half an ounce of Lake, two ounces of red Lead, and a quarter of an ounce of Vermillion, and a ſmall piece of Indico, mix them well, by ſtirring them together, and keep them upon a gentle Fire, 'till they are about the thickneſs of the white of an Egg; then having firſt rubbed your Skin over with Allom-water, and ſuffered it to dry, apply this Colour, as has been directed in the former.

To colour Skins a light Blue, or Turky Colour. Take Smalt two ounces, red Wine a quarter of a pint, Allom two ounces, Vinegar half a pint, and white Starch half an ounce, put them over a gentle Fire, not ſuffering them to become over thick; and then ſoaking the Skins with Allom-water, and ſuffering them to dry as uſually, add to this Colouring half a pint of Gum-water tolerably thick. lay it on, glazing it over, when dry, with a Poliſher.

To colour a light Green. Take the Herb called Horſe-Tail, bruiſe it, and add to the juice a ſmall quantity of Verdigreaſe, Allom and Copperas, and over a gentle Fire make it into a Colour; which will prove very pleaſant.

To dreſs or cover Leather with Silver, or Gold. Take that which is called brown Red, and grind or move it on a Stone with a Muller, adding Water and Chalk, the latter being diſſolved, and with it rub or lightly dawb the Skins over, 'till they look a little whitiſh; and then, before they are quite dry, lay on your Leaf Silver, or Gold, placing the Leaves a little over each other, that no intermiſſion be found; and when they have well cloſed with the Leather, and are ſufficiently dried on, rub them over with a Poliſher made of ſmooth Ivory, or of a Horſe's Fore-tooth, and you will find it very ſplendid.

Another way of Guilding Leather, more laſting than the former, viz. Take Glair, made or conſiſting of the Whites of Eggs, or you may, for want of the former, make Gum-water, and with a Bruſh run over the Leather with either of them, which done, lay on your Gold, or Silver, and burniſh it over as the former.

To make Leather ſhine without any Gold. Take Whites of Eggs, Gum-water, and Powder of Antimony, mix them well together by beating, and having your Skins well dry'd, lay the mixture on them, and do it often, 'till the Leather be quite hid; which done, let the mixture dry, and then burniſh them over; and for want of Antimony, you may uſe black Lead.

CHAP. III.

How to recover faded Colours in Cloth, or Silk, to take Spots, Stains, Pitch, Tar, Roſin, Greaſe, Wax, Oil, &c. out of Silks, Stuffs, Woollen or Linnen; to preſerve them from Damage of Worms, Moths, &c.

To make Cloth that has loſt its Colour recover it and look freſh and bright.

TAKE of unquenched Lime two ounces, of the Aſhes of the Bark of Oak the like quantity,

quantity, and put them into a quart of fair Water, mixing them well, and ſuffering a ſettlement for the ſpace of an Hour, drawing off the clear Part, and therewith waſh or carry over with a hard Bruſh the Cloth, and by twice or thrice carrying it over, it will look fair and bright.

To waſh Scarlet that is ſoiled or greaſie. Take two Ounces of white Tartar, beat it fine, and heat it over a Fire in a pint of fair Water, till it be thoroughly diſſolved and very hot, then ſuffe ing it to cool a little, take an indifferent hard Bruſh and dip into it, rubbing it lightly over with the ſame, and by ſo doing in a ſhort time it will return to its firſt Eſtate and Colour.

To reſtore Silks of any Colour in the like nature as the former. Take an ounce of unſlacked Lime, and the like quantity of the Aſhes of Vine-Branches, and as much Oak-bark, mix them well together in fair Water, and make a kind of a Ley with them over a gentle Fire; which being ſettled, take the clear part, and with a Bruſh or Sponge rub over the faded part, and it will in a ſhort time reſtore it.

To make a Soap to take Greaſe, Spots, or Stains out of Cloth, Stuffs, Silks, &c. Take a pound of Roch-Allom, burn it well, and beat it to Powder, add to it the Powder of the Roots of Florence-flame, a Herb ſo called, about half a pound; and to theſe add a new-laid Egg, and two pound and a half of Cake Soap, make them up with fair Water into round Balls; and when you are deſirous to take out any Spot or Stain, waſh well the place firſt with warm Water, and then lay a laying of this Soap upon it for 3 or 4 Hours, and then waſh it off with other warm Water, and in often ſo doing they will diſappear.

Another excellent and approved way. Take Wood-Sorrel and diſtil it in an Alembick with Fumitory, and waſh the damaged place therewith, and it will in frequently ſo doing reſtore it.

A Way to take Spots out of Linnen or Woollen if Coloured. Take of the Juice of a Limon, two ſpoonfuls; one ſpoonful of the Juice of an Onion, and warm them over the Fire, and with them often waſh the Spots, and they will no more appear.

How to make a good Ley to take out Spots and Stains. Put into three Pints of Water half a pound of Soapboilers Aſhes, and ſuffer them with daily ſtirring to remain in it for the ſpace of four days, then pour off the clear Water; then mix it as youſee convenient with Fullers Earth and lay it hot on the place, and it will with often uſing effect your deſire.

A very good Way to take Spots of Oil out of Cloth. Take Oil of Tartar, and mixing it with the Powder of a burnt Bone, apply it to the Spot, and hold over or upon it a Spoon wherein is a live Coal, and the heat thereof will attract the Greaſe, and render the Spot inviſible.

To take Pitch, Tar, Roſin or Bees-Wax out of any Stuff, Silk or Cloth Take Oil of Turpentine, warm it a little and apply it to the place, ſuffering it to ſoak in for the ſpace of an Hour; and then gently rub it, and you will perceive the Roſin, *&c.* looſened and inſtantly to crumble away.

A Soap-Water to take out any manner of Spots how to make it. Boil Straw-berries, or the Leaves thereof, in a quart of fair Water, and a pint of Vinegar; then add 2 pounds of Caſtle Soap, and half a pound of Chalk finely ſcraped; boil them till the moiſture is conſumed, and when you have Occaſion, wet the place with ſharp Vinegar, and rub it over with this Soap, drying it afterwards againſt a Fire, or in the Sun.

A ſpeedy Way to take all manner of Spots or Stains out of Scarlet or Velvet, of what Colour ſoever not changing it Take Soap wort, an Herb ſo called, ſtrain out the Juice, it being bruiſed, add to the Juice a ſmall quantity of black Soap, if the Scarlet be not died in a clear Grain, and theſe being made thin, waſh the place with the liquid part,

ſuffer-

ſuffering it to dry between whiles, and by this means in a Day or two you will perceive the Spots to diſappear.

To take Iron-moulds or Stains out of Linnen. Take the Juice of a Limon, warm it with a little Powder of Allom diſſolv'd in it, wet it, and as it is wet, dry it with a Spoon wherein is a live Coal, and ſo continue to do for the ſpace of two Hours, and the Spot or Ironmould in a waſhing or two will diſappear This will take out Spots of Ink, *&c.*

To take out oily Spots out of Parchment or oily Paper. Take the Powder of burnt Bone, finely ſifted, and place between two boards preſſing it hard. ſome of the Powder on either ſide the Spot, and in two Days it will be quite vaniſhed

An excellent Way to take ſpots or ſtains out of Linnen. Take fair Water, and diſſolve in it Bay-ſalt, and ſteep the Linnen therein; then take Juice of Sorrel and ſharp Vinegar. and rub the Spot with them, ſuffering it likewiſe to ſoak in, and in often ſo doing it will diſappear.

To take away Ink- taints, ſtains with Fruit &c. Take Powder of Allom half an ounce. Juice of Houſleek, or Sengreen 2 ounces, and apply them, the Allom being diſſolv'd very hot, the buſineſs will be done.

Inſtructions how to keep Silks from ſtaining in Waſhing Heat Rain-water, and when it is very hot, put into it Caſtle Soap, diſſolve it well; then ſuffer it to be almoſt cold, after which, ſprinkle in a ſmall quantity of Fullers Earth, and ſo ſcour out your Silks; then ſuffer them not to lie on heaps, but ſpread them. and clap them between dry Cloths, and they will be freſh and fair.

Directions to keep Linnen layed up without uſing, from damage for many Years. Having waſhed and well dry'd your Linnen in the Sun, fold it up, and ſcatter in the folding the Powder of Cedar-wood, or Cedar ſmall ground, having firſt perfumed your Cheſt with Storax; by which means

not

not only dampneſs is prevented, but Worms or Moths, &c.

Further Directions to keep Woollen or Linnen Sweet and Pleaſant, as likewiſe from being damaged by Moths, Worms, &c. Take Orange Peels, dry them in an Oven, and beat them to Powder, add to that Powder of Elecampane Roots, the Powder of Arras, and that of Juniper, and air your Cloaths when you lay them up over a Fire wherein Bay-leaves are caſt and burnt.

A Pleaſant Water to preſerve Linnen or any other thing a long time, giving it moreover a curious Scent. Take of Spike-flowers, two Pound, Coſtmary one Pound, Balm an handful, Penny-Royal as much, Mace two Ounces, Arras Powder an ounce, ſoak theſe in White-wine and diſtil them, and ſprinkle your Cloaths in a fair day, ſuffering them afterwards to dry, and then lay them up.

A good Way to waſh any Linnen or Woollen interwoven with Gold or Silver, and not to impair it. Dip the part you deſign to favour in Urine and Allom, and ſuffer it well to be ſoaked; then ſoap the reſt, but not that place, and having waſhed it, hang it to dry in the ſhade, and your Expectation will be anſwered.

To remove Stains occaſioned by Wine or Vinegar. Take new Milk, and ſteep the thing ſtained therein a Night; then take Runnet, and apply to the Stain, rubbing it in; and by ſo doing twice or thrice, you will find it fair as at firſt.

To make Linnen that is turned Yellow, very White. Heat Milk over the Fire, and add to a gallon a pound of Cake Soap ſcraped in, ſo that it may diſſolve, and when the Cloaths have boiled therein, take 'em out, and clap 'em into a Lather of hot Water, and waſh 'em out ſpeedily

To whiten Cloth the beſt Way. Take your Cloth and buck it well, then ſpread it upon the Graſs, and ſprinkle it with Allom-water, ſuffering it to continue abroad for three or four Days; then

buck

buck it again with Soap and Fullers Earth, and uſe it as before, and ſo it will be both thick and white.

To make Salt-water Potable. Take a Veſſel of Wax, hollow and empty, and dip it into the Sea, the Water that gets in by the Pores of the Wax will be drinkable. An Earthen Pot not baked, if the mouth be cloſe ſtopp, will purifie the Water; its done more ſpeedily and plentifully. Put Freſh-water Sand into Salt-water, and ſtay a while, putting a Linnen Cloth before the mouth of the Veſſel under that which muſt receive it. It will be ſtrained through, and will be freſh, having loſt all its Saltneſs. *Wicker.*

CHAP. IV.

Directions how to ſcowre Silver and Gold Lace, make Plate bright, and look like new: To take Spots and Stains out of it: To diaper Linnen, whiten Ivory, make Cement for broken Glaſſes, &c. *Perfumes of divers kinds, Musk-balls, and other Matters.*

To ſcower Silver and Gold Lace, and to reſtore it to its firſt Luſtre, as alſo Imboſs, or Imbroidery.

TAKE the Lace, and lay it as ſmooth as may be upon a dry Woollen Cloth; then burn Allom, and beat it to Powder, ſifting it afterwards through a very fine Sieve; then, with a Bruſh, rub it gently over the Lace, and by ſo doing, and often turning it, the buſineſs will come to Perfection. And thus

To ſcowre and take Stains out of any Silver Plate, &c. Steep your Plate in Soap-leys for the ſpace of four Hours; then run it over with Whiting wet with Vinegar, ſo that it may ſtick thick upon it, and dry it by a Fire; after which, rub off the Whiting, and paſs it over with dry Bran,

Bran, and the Spots will not only diſappear, but it will look exceeding bright.

To boil up Plate, that it may look like new. Take of unſlacked Lime a pound, of Allom the like quantity, Aquæ vitæ and Vinegar of each a pint, and of Beer-grounds two quarts, boil the Plate in theſe. and they will ſet a curious Gloſs upon it.

To make any Linnen, at the firſt appearance, look like Diaper. Take it when new waſhed, ſpread it upon a Table ſomewhat damp, and ſprinkle it over with a Bruſh dipped in Allom and Roſe-water, in form and manner as beſt ſhall ſuit with your Fancy.

To whiten any piece of Ivory that is turned Yellow, as alſo Bone, &c. Take a pound of quick Lime beat ſmall, and place it on the Ivory 'till it be covered; then pour gently, and by degrees, Vinegar thereon, and ſo ſuffering it to lie for the ſpace of twenty four Hours, take it out, and rub it with Allom-powder, and the firſt Whiteneſs will be reſtored; and in the like manner Bone may be uſed and ordered.

To cement broken Glaſs, or China Ware, a good way. Take the Whites of two Eggs, half an ounce of Quick-lime beaten to Powder, a dram of the Powder of burnt Flint, and the like quantity of Gumſandrick, temper them well together, and add, for the better moiſtening, a little Lime-juice; with a Feather anoint the Edges of the broken Veſſels, and clap the pieces together by a warm Fire, and if your Hand be ſteady, the Fracture will hardly be diſcerned, or white Lead and Oyl, ſuch as Painters uſe.

To remove Spots and Stains out of very thin Silks, &c. Take Whitewine Vinegar a pint, make it indifferent warm, then dip a black Cloth into it, and rub over the Stains; then ſcrape Fullers Earth on it, and clapping dry Woollen Cloths above and beneath, place an Iron, indifferently hot

hot, on the upper, and it will draw out the Spot, &c.

To make an excellent Perfume, preventing Peſtilential Airs, &c. Take Benjamin half an ounce, Storax the like quantity, as much of Galbanum, temper them being bruiſed into a Powder, with the Oyl of Mirrh, and burn them in a Chafing-diſh; or for want of theſe, take Roſemary, Balm and Bay Leaves, heat them in Wine and Sugar, and ſuffering the moiſture to conſume, let them likewiſe burn by the heat of the Pan, and they will caſt a curious ſcent.

To perfume Cloaths. Take the beſt Cloves an ounce, dry them in an Oven, and beat them to Powder, do the ſame by a like quantity of the Wood Rhubarb and Cedar, and ſprinkle them in your Box or Cheſt, and they will not only caſt a curious Scent, but likewiſe preſerve t hm againſt Worms and Moths.

A curious Scent, or Perfume, to carry with one when going abroad in damp Airs, or to viſit ſick or infected Perſons, and is wonderful good for all Pains in the Head. Take Orange-flower, Butter an Ounce, Oyl of Nutmeg a quarter of an Ounce, Amber-greaſe a dram, and Civet a ſcruple, mix them well together, and carry a ſmall Box of it about you, ſmelling to it as you have occaſion.

To make a ſweet-ſcented Powder very Pleaſant. Take Rice-grounds, and the ſmall white Starch a like quantity, pound them in a Mortar, and ſift them well through a fine Sieve, dry the Duſt in an Oven, or before the Fire, then infuſe to each pound a grain of Civet, and half an ounce of Roſe-ſcent, and keep it looped up 'till it be well infuſed; and then uſe it for your Hair, or otherways at your diſcretion.

To make ſcented Waſh-balls the beſt Way to keep, &c. Take Caſtle Soap, ſcrape it into new Milk, and heat it over the Fire 'till it melt, and again become thick, then put a ſmall quantity of Am-

ber-greaſe, Lavender-cotton-flowers beaten and dry'd 'till they are as fine as Meal, and a little Spirit of Cloves or Cinamon, and ſo make them up into Balls, and lay them a drying in a warm place, but not in the Sun.

A Perfume to drive Vermin out of a Houſe, &c. Take Burgundia-pitch an ounce, Brimſtone half an ounce, Storax the like quantity, the Powder of Mother-Amber a Dram, beat and mix them well together, and burn them upon a Chafing-diſh, and where the ſcent comes, the Mice and Rats will fly with much ſpeed to avoid it.

An Ointment or Perfume, to remove an ill ſcent that has tainted the Brain, &c. Take of the Oyl of Bay-berries half an ounce, of the Powder of Frankincenſe a dram, the Oyl of Mace, or Spirit, a ſcruple, as much of the Oyl of Turpentine, mix them well together, and keep them in an Eſſence Bottle.

An Eſſence that will immediately Perfume the Place; how to make it. Take Cinamon an ounce, Camphora half an ounce, Opopanax a dram, Roſes clean picked a handful, Rue and Roſemary-flowers the like quantity, the Gum of Myrrh a dram, bruiſe them well, and put them into a ſmall Alembick, or Glaſs Retort, and take the Eſſential part in a Bottle, ſtopping it cloſe, unleſs when occaſion requires, and then by opening it you will ſoon find the Effects anſwer your Expectation.

CHAP. V.

The curious Art of Drawing in all its Perfection, as well Humane Bodies, as Birds, Beaſts, Fiſh, Landskips, Building, and many other rare Portraicts, by plain and eaſie Rules, in due proportion and manner.

SEeing Limning, or Drawing, is an Art very curious, much admired, and ſought after in

in all Ages, and especially in the present, I have thought it convenient to lay down Methods and Rules for the Instruction of Learners especially, thereby to enable them for greater acquirements, *&c.*

The first material Thing to be known is, the necessary Instruments requisite to be used on this occasion, *viz. First*, Sallow-coals or Sallow-wood burnt to a Charcoal, that it may be sharpned in the form of a Pencil, to touch over lightly the first draught. *Secondly*, the out Feathers of a Duck's Wing, to wipe off as you see occasion, what is superfluous or the matter designed to be altered. *Thirly*, black Lead Pencils well pointed, to go over your Draught the second Time. *Feurthly*, Pens made of Ravens or Crows Quills, to finish the design by giving a more curious Piece. *Fifthly*, a Rule and a pair of Compasses with three points, to take in and out at pleasure, the one for black Lead, the other for white or red Chalk, or any other Paste. And the use of the Compas is to be observ'd in most Drawings, to mark out the equal distances after your out-stroaks are drawn.

Having the aforesaid things in readiness, proceed to Practice; and in the first part begin with a plain Geometrical Figure, such as are found to be the Circle, Oval, Square, Cone, Cylinder, Triangle, which accordingly you may mark out with your Rule and Compas, 'till you can readily do it without them, for a Circle well carried will much avail you in any orbicular Form, as the Sun, Moon, Globe of the World, *&c.* The Oval is a direction for the Mouth, Face, the Foot of a Wine or Beer Glas The Square is very useful in confining the Picture you are to copy. The Triangle wonderfully assists you in making half a Face The Cone will assist you in Drawing Globes, Spires of Steeples, and the like. The Cylinder assists you in Drawing

Pillars, Pilasters, Columns, together with their Ornaments proper to Architecture, *&c.*

Having considered the matters premised, proceed to draw Pears, Apples, Apricocks, Peaches, Grapes, Strawberries, Peascods, and Terfles and other Insects, with Flowers and Branches of Trees in their proportion: And being a little perfect at these, proceed to the third Practice, which is usually imitating Beasts. As

1. Those that are more heavy and dull, *viz.* The Elephant, the Bear, Cow, Ox or Bull, and sometimes Sheep and Goats: Those more nimble and fleet, as the Horse, Stag, Hart, Unicorn, Tyger, Lyon, *&c.* And for Birds, practice the Eagle, the Swan the King's-Fisher, the Parrot, the Patridge, the Pheasant, *&c.* Then again for Fish, the Whale, Salmon, Pike, Carp, Herring, Mackrel, Lobster, and such other Fishes as are most in use to adorn a Chimney-piece, or any the like matter or business; and from these proceed to Mellons, Pumpkins, Ears of Corn, Cucumbers, Parsnips, Carrots, Cabbages, *&c.* When having practised your hand in their proportion, and knowing the proper colours, of which I shall treat hereafter, you may easily form and illustrate them, though the excellency of this Art consists in Drawing a Humane Body to the Life: And because it ought not rashly to be all drawn at once, I shall proceed with these in order, especially as to the Rules in general.

CHAP. VI.

To draw the Face in divers Postures and Proportions, the most exact Rules, and what of Variety is to be considered therein.

For Drawing the Face, General Rules, &c.

IN this Case curiously observe the Face in its motion, whether upward, forward, downward,

rard, or ſideways, touching lightly the Features where the Eyes, Noſe, Mouth and Chin ought to ſtand: Then more perfectly go over them, for the Circles, Squares and Triangles that are uſed in this matter may ſerve well enough to guide your Judgment where to place them. And in this caſe, obſerve diligently the principal Muſcles of a Face, appearing moſt in aged Men or Women. And there is uſually a three-fold proportion obſerved in a Face; as, *Firſt*, from the top of the Forehead to the Eyebrows. *Secondly*, from the Brows to the bottom of the Noſe; and *Thirdly*, from thence to the bottom of thhe Chin; but in ſome the Forehead is lower, and in others the Noſe longer.

The diſtances between the Eyes conſiſt in a full Face of the length of one Eye, but in a three quarter or ſideface, that diſtance is leſſened anſwerable to the proportion. As for the Noſtril, it ought to be exactly placed againſt the corner of the Eye. And in a fat Face, you will perceives the Cheeks to ſwell, when on the contrary, in a lean Face, the Jaw-Bones ſtick out, and the Cheeks fall in.

You may diſcern a ſmiling Countenance, by perceiving the corners of the Mouth to turn up a little; and a frowning or ſowre Countenance, by the Forhead's bending, and ſomewhat wrinkling on the top of the Noſe.

To draw a foreright Face, make the form of a perfect Oval, divided into three equal parts, by two Lines. In the firſt part place the Eyes. In the Second, the Noſtrils. And in the Third, the Mouth; obſerving to keep the Eyes diſtant from each other, the length of one Eye, and that their inward Corners be perfectly over the outſide of the Noſtrils.

To draw an upright Head, it muſt be made equal with three Lines every Way, either upward, downward, higher or lower, and that

muſt, as the former, be divided into three equa
Parts.

To draw the inclining, or Foreſhorten'd Face, obſerve how the Lines concord or agree toge-ther, and with eaſe you may draw, in their pro-per Places, the Noſe, Mouth, and other Parts with a little Practice, and in theſe Forms it i requiſite that you are very Perfect, as being Rule of frequent uſe; for of the many Parts of Man' Body, the Face is moſt difficult; but having g the true Proportion, with your Meaſures, yo will be capable, let the Face turn which way it will, to form it; and further, note, that whatſo-ever Proportion the Face you are to imitate bears, your out Stroaks muſt be formed accordingly.

As for the Noſe, it requires to its due Propor-tion much Care and Diligence, as being the moſt eminent part of the Face; in which eſpecially obſerve the hollowneſs, roundneſs, and indenting of the Noſtrils, *&c.*

The next Thing, eſpecially where the Body is to be covered, is to be conſidered of the Hands, in their ſeveral Poſtures and Poſitions, as well by Meaſure as without, as alſo Hands and Arms, o whoſe Poſtures, as well as the former, it would not be unneceſſary for the Learner to get Draught for his better Imitation, which may be had at moſt Picture Shops for a ſmall matter, ready done.

When you have practiſed, and are a little expert in drawing the Hands and Arms, *&c.* proceed to the drawing of Feet in their ſeveral Poſtures, as well without as with Meaſure; which having at-tained ſeparate, exerciſe your Skill in drawing legs and feet conjunct or joined together that ſo un-derſtanding the frame and particulars of the whole Body, you may be the better underſtood in draw-ing the Figures in their due Proportion and right Poſtures, in doing which there is no ſmall Diffi-culty. And in this manner, having proceeded to form the Members, draw the other Parts of the

Body,

Body, as the Shoulders, Back, Breaſt, Belly, Secrets, Thighs, and the like; and laſtly, take care in due Proportion to join them, that they may appear firm and compleat.

Coming to practice upon an entire Body, the beſt Way is to begin with thoſe of Children; and my Reaſon is, Becauſe they are generally fat and plump, and rounder than the Bodies of Men and Women, and conſequently require ſo much Curioſity in the Obſervation of Muſcle and other Features, which render the drawing leſs difficult.

As for your further Direction in Drawing, obſerve ever to begin at the Head, and ſo proceed by Degrees, running the whole lightly over at the firſt, and encreaſing more fully, as you ſee occaſion, ever being careful to take notice, that your parallel Joints, Muſcles, *&c.* be rightly proportioned, and exactly oppoſite; alſo that the Motions of the Body be anſwerable to each other, and that the Parts and Limbs have a due Symmetry, not being faulty in the Indecency of having one great Arm or Leg, and another ſmall one, nor a great Finger upon a ſmall Hand, neither further than the Proportion requires, ſuffer one Limb or Member to be longer than another; and altho' it ſo happen, which it frequently does, that at firſt you commit Errors of this Nature, yet be not diſcouraged, for often practice will redreſs 'em.

Having thus far proceeded with Succeſs and being indifferent perfect herein, you muſt conſider what it is to Shadow, and in this caſe obſerve the following Rules.

The out-lines of the Draught of any Picture, give the Symmetry or Proportion, which ought to be ſufficient to a good Judgment, but the Lines and Shadows produce to the leſs curious, the lively Likeneſs in Shadowing; therefore of any Picture, you muſt take notice to caſt your Shadow,

dow always one Way, *viz* On which Side soever you begin to shadow your Figure, whether on the right or left Hand; as in the Figure of a Man, if you proceed to shadow his left Cheek, the left side of his Neck, Body, and all other Parts must be shadowed, unless the right Side of the Figure be dark, by reason of some other Body standing between the Light and it, as suppose three Men were standing together, then must the Body or Figure in the middle, be darkened by the foremost, unless the Light by facing it come between them.

Further note, That all Shadows must consequently grow fainter, as they are further removed from thē opacious Body from whence they proceed. But in case of Storms, where Clouds or Waves, by contending Winds are driven one against another, contrary Shadows are allowed, as striving for Superiority, and so you must be sure to supply the greatest first, and according to your Judgment; supply from them the lesser.

All circular Bodies must have a circular Shadow, as they have a circular Form, and as the Object of Light which causeth the Shadow is circular.

And now for your further Information of this kind, observe that a Man standing, from the top of the Head to the bottom of the Feet, is in due proportion eight times the length of the Head. The Arm when it hangeth streight down, reacheth within a span of the Knee; the Hand must be the length of the Face, and spread broad, must cover it, and no more; and further note, that in drawing a Figure standing, you must in the first place draw that Leg which the Body stands firm upon, or else your Figure will undecently decline one way more than another, as if it were falling. The Arms of a Man extended are his full length; and so of a Woman in the various particulars. Thus having directed you in

in the Drawing and Proportioning naked Figures, I now proceed to give Directions about Garments, &c.

As in Naked Figures, it is obſerved you draw the out-lines firſt; ſo you muſt do in Drapery or Cloathing, leaving ſpace within for your greater or leſſer Folds; then firſt draw the greater Folds, and break them into leſſer contained within them, and the cloſer the Garment ſits to the Body, the narrower and ſmaller muſt be the Folds and in ſhadowing, the innermoſt muſt be the harder, and the outermoſt ſofter.

Continue always throughout your Garment the great Folds, but as for the leſſer, break them off, as you ſee convenient and the finer your Drapery is, the fuller and ſharper muſt your Folds be, and the Shadow the ſtronger, yet more pleaſant to the Eye, ever taking notice, that that part of any Garment that ſits cloſe, as the body Coat of a Man, the breaſts of a Woman, and the like, muſt not all be folded, but rather with a ſweet Shadow repreſent that part of the Body that the Garment appears to cover, as Women's Breaſts, with a ſweet round Shadow, &c. And thus much for the Body of Man in Drawing.

CHAP. VII.

Landskips, what they are, and what it required in the Drawing, and Curious Proportioning them Pleaſant to the Eye or Fancy, &c.

A Landskip is that which gives a pleaſant Proſpect of Trees, Hills, Rivers, Cattle, and other Rural Delights, with Towns, Cities, Caſtles, Promontories, Rocks, Ships, Boats, Barges, and whatever the Fancy of that kind can form. To expreſs which, and make all truly appear natural as they ought, according to the true

propor-

proportion and distance, observe in every Land skip to make a very fair *Horizon* appear, the Sky either clear, or over cast with Clouds, expressing the Rising or Setting of the Sun to issue as it were from over some Hill, Mountain or Rock; but in a fair Landskip, beware you express not the Moon or Stars, which are only to be seen in a Night-piece; and in case such a piece be required, you may draw an Astronomer with his Quadrate, taking the height of the Moon; another with his Cross-staff, taking the distance of certain Stars; some standing with a dark Lanthorn far from them, to give them knowledge of their Degrees, an Owl flying in the Air, Men catching of Partridges with Low-Bells, a Wolf worrying of Sheep, and the like; being natural to such Pieces.

If in any fair Landskip you express the Light of the Sun, ever observe, that throughout your whole Piece you cast the Light of your Trees, Buildings, Rocks, Ruins, and all things mentioned or express'd within the Work, thitherward: Observe further to lessen your Bodies proportionably, according to the nearness or distance they should naturally appear, so that the further the Landskip goeth from your Eye, the fainter you must express any thing seen at a distance, till at last the Earth, Water, and Sky seem to meet, as do the Colours in a Rainbow: wherefore when at any time you see good Pieces of this kind, take your Observation more particularly from them, and imprint the Fancy as well as may be in your Mind.



CHAP.

CHAP. VIII.

The Curious and much esteemed Science of Painting or Limning in Water Colours, and how exactly to proceed therein, either on Parchment, Glass, or Copper, with the Mixture and Distinction of the sundry Colours, and other Rare Curiosities.

HAving gone over that which we may properly term Limning, or, as many will have it, Drawing; I now come to that Part, vulgarly known by the Appellation of Limning, *viz* laying in water Colours the most curious of all, and much practised by Persons of the best Quality.

To fit your self, and prepare for the Practice of this, you must have Gums of all sorts to make your Waters as occasion requires; also a Marble flat Stone, a Muller, Colours of various sorts, liquid Gold and Silver, Size to lay Gold, *&c.* Parchment, of the finest Pencils of sundry sorts, Pots and Shells to put your Colours in.

To make your Gum-water, take Gum-Arabic, White, Clear, or Transparent, for that which is Yellow, or of an Amber-Colour, is insignificant; tie up a quantity in a Rag, and hang it in fair Water, till it be dissolved, then the Water being stiff enough for your purpose, mix your Colours with it, always having two sorts to make a weaker or stronger, as the matter requires.

Gum-Lake is a compound Gum made of whites of Eggs finely beat, Honey, Gum of Ivy, strong Wort, *&c.* which being well mingled and beat together, they will run like Oil, and in the end harden; and this you may buy ready-made, as the former, observing only, that it be Clear and Transparent.

As for the Colours, there are simply six, *viz.* White, Black, Yellow, Green, and Blue; to which

which ſome add Browns, but they are generally compounded: Of either of theſe there are ſeveral ſorts, as theſe, *viz.* Blacks the beſt, are burnt Ivory, Cherry-ſtones, Lamp-black. The Whites are Ceruſe and White-Lead. The Reds are Red-Lead and Lake. The Blues are Indico, Ultramarine, Biſe ſmalt. The Greens are Biſe, Sap-green, Pink, Cedar-green. The Yellows are Engliſh Oker and Maſticote. The Browns are Umber, Collens-earth, Spaniſh Brown.

Theſe (tho' there are others) are the principal Colours in Limning, and therefore I chuſe to ſpeak of theſe only in this place, the others omitted being fit only to colour Pictures, or waſh Maps, *&c.* and of theſe

The Colours to be waſhed are Biſe ſmalt, Cedar, Ultramarine, Maſticote, and Red-Lead. The Sap-green is only to be ſteeped, and the reſt I have mentioned are to be waſhed and ground.

To waſh Colours, you muſt put a quantity of the colour intended into a clean earthen Diſh, and pour Water thereto very clear, ſtirring the Colour and Water together, ſuffering it to ſtand a while, and perceiving the Greaſe or Scum to riſe, take it off, and pour out that Water, putting other Water to the Colour, *&c.* and ſo do till the Water become clear, and the colour at the bottom remain fine, then pour away the Water gently, and you will find the Colour ſticking about the ſides and edges of the Diſh, as alſo at the bottom, and if it ſo happen, that you can get an Ounce of pure Colour out of a pound (tho' the reſt is ſerviceable for many uſes) it is ſufficient.

In ſteeping Sap-green, you muſt put it only into fair Water, adding a fourth part of Allom-powder to raiſe the colour, and at the end of twenty four Hours it will be a curious Green.

As for the colours that are to be waſhed and ground, take a ſmall quantity of either, and put it into a clean Shell, adding a drop or two of Gum-

Gum-water, and work it about the ſides of the Shell with your Finger, ſuffering it there to ſtick till it is dry; then draw over it your Finger, and if any come off, then you muſt add more Gum-water, but being dry, if it glitter or ſhine, it is a token there is too much Gum in it, which you muſt remedy, by tempering it up with fair Water only.

There are ſome Colours, as Umber and Lake, which parch and crack when they dry, and therefore to bind them you muſt temper them with fine Sugarcandy diſſolved in fair Water. and ſo you muſt do by other hard Colours ſubject to this defect.

To burn the colour thereto appropriated, put them into a Crucible, cover it with a Lid of Clay, and ſet it on a hot Fire, and ſuffer it to be red hot, and when the colour is cold, you may waſh or grind it, as the Nature requires, but do neither before they be thoroughly burnt.

To grind the Colours I have directed ſo to be uſed, take a quantity of any of them, cleanſed from dirt and filth, and laying it upon your Stone, bruiſe it a little with your Muller; and then with fair Water grind it till the Colour be very fine, then have in readineſs a large chalk ſtone with Troughs or Furrows in it, and pour your colour into it, and there ſuffer it to remain till it be well dry, at what time take it out, and reſerve it in Papers or Boxes for your uſe.

Of theſe ſix ſimple Colours, adding the Brown, many may be compounded for Faces of all Complexions, Garments, Landskips, Buildings, Rivers, Birds, Fiſh, Beaſts, *&c.* As thus.

To make a violet colour. Take Indico, White and Lake, and at pleaſure you may, as you take more or leſs of a colour, make it lighter or darker

Lead colour you make of Indico and White mixed and tempered together.

Make flame colour, or colour for flaming Fire, of Red-Lead and Masticote heightened with White.

To make a Scarlet colour, take Red Lead Lake, and a small quantity of Vermillion: For note, that the later is not good in Limning

To make a Light Green, take Pink, and Smalt, with white to make it lighter as occasion requires.

To make a Purple Colour, take Indico Spanish-Brown and White well tempered and heightned.

To make a Bay colour, take only Spanish-Brown and White.

To make a Murrey colour, take Lake and White.

Many other colours are made by mixture, too tedious here to be recited; wherefore I leave it to the discretion of the Practitioner, to mix them suitable to his Work or Fancy, and proceed to the practical part of this curious Art, &c

CHAP. IX.

Instructions for the preparing your Tablets, and laying on your Colours in their graceful Shadows and Proportion and what is to be observed as to the Lines in the Face, Complexion, and Procedure in Drawing Curious; and many other Matters.

WHEN you have prepated your colours, prepare likewise good Pencils; to know them draw them wet thro' your Mouth, and if they come to a Hair, or sharp point they are good, but if they after that stand rough, or Hairs stare, or start out at the side, they are naught, and to be rejected.

The next thing is to prepare your Table; and in this case, get a fine pasteboard sleeked as smooth as a Card; then fine parchment or Vellum, and starch it upon the board, as smooth and even that no wrinkle, or rising may appear; to perfect

which, you must lay the parchment side on your Stone rubbed very clean, and polish the contrary side, and let it dry in the shade.

Having thus prepared a Table, as big as you intend your picture, chuse a Light fair and large, free from Shadow, being if possible a Sky light on the top of a House, yet such a one, as the Sun-beams do not penetrate or glance upon, observing to begin and end your Work by one and the same Light, keeping the Room clean that no Dust may fly about to injure your Work.

The next thing to be considered, is your manner of sitting; and in this case, let your Desk be so placed, that when you sit before it, your left Arm may be placed toward your Light, and your right Arm from it, that your Light may slaunt upon your Work. And if you are to draw the picture of any live person, the posture being agreed upon, suffer him or her to sit above two yards distant from you, and as level with you as may be, marking well, that whensoever the party moves, tho' never so little, for never so little motion of the body or face, if not recalled, may occasion in a short time many Errors; and when you undertake this, the following Materials are requisite to be near to you, *viz.*

Two small Dishes or Sawcers with clean Water, the one to wash your pencils in when foul, and the other to temper your colours withal; a fine large Pencil to cleanse your Work, called a Fitch-Pencil; a sharp Penknife to take off Hairs, coming from your Pencil, or Spots that may fall upon your Card; a Paper having holes cut therein, to lay upon your Card, to cover it from Dust, and to rest your Hand upon.

If your Carnation or flesh-colour be tempered up, it must be somewhat lighter than the complexion of the party you are to draw. If it be a fair complexion, you must have white-lead and red-lead well tempered If the complexion be

ſwarthy or brown, add to your white and read lead, Maſticote, or Engliſh Oker, or both, if occaſion require it; but let the complexion be what it will, be ſure to temper your fleſh-colour lighter than the party to be drawn; for if it be too ſad, there is no remedy; and obſerve to place your Shadows diſtinct from each other in a large Shell: And note, that in all your Shadows you muſt uſe ſome White; wherefore in the firſt place, lay a conſiderable quantity of White by it ſelf, over and above what the Shadows are at firſt tempered withal. In the ſecond place, for Red uſual to the cheeks and lips, temper Lake, and Red-Lead. In the third place, for your blue ſhadows, as Veins, or under the Eyes, take Indico and White. In the fourth place, for your faintiſh green ſhadow, take Engliſh Oker, white, and Indico, or ſometimes Maſticote. In the fifth place, for a deep Shadow, take white, and Engliſh Oker and Umber Sixthly, for dark ſhadows in the Faces of Men, take Lake and Pink, for they make an excellent fleſhy ſhadow. And theſe being the chief ſhadows, I leave what may further occur of this kind to your diſcretion

Having all things in readineſs, the next thing you proceed to is to draw the Face, in doing which take the following Method, viz Lay the Grouud with the colour anſwerable to the complexion of the Party; and then begin the Draught, the Party ſitting Now to finiſh a Face, three Operations of ſitting are required. At the firſt ſitting, you muſt only lay the dead colour. At the ſecond, go over the Face more curiouſly, nearly obſerving whatſoever may conduce to the Grace or Deformity of the Perſon to be drawn, conſidering it in a ſweet diſpoſe, and well couching the colours one within another. And in this ſitting you perfect what only was rough before, by laying on the deep colours, ſo that at the third ſitting you may finiſh the Face; as in the

Eyes

Eyes, Eyebrows, Hair, and Ears, which things are the laſt Work, and not to be perfected till the Hair, Curtain, or Backſide of the Picture, as alſo the Drapery, be finiſhed. And of theſe Sittings in their Order.

The Operation of the firſt ſitting, &c. Having laid your Ground for the general Complexion, the next Work muſt be to draw the Out-lines, which you muſt effect with Lake and White mingled, drawing very faintly; ſo that if you chance to miſs your Proportion, you may alter it with a deeper mixture of the ſame Colour.

Having drawn the Proportion of the Face, add to the former Colour a ſmall Proportion of red Lead, tempering it faintly to the Colour of the Cheeks and Lips, at the Tips of the Chin and Ears, about the Eyes and the Roots of the Hair, placing the red Shadows; and as for the Shadows, they muſt not be put in with the flat of the Pencil, but with ſmall touches after the manner of Etching; and in this manner going over the Face, you will cover your Ground with theſe and the like Shadows: And in theſe dead Colours your curioſity need not be great, only ſtrive to imitate Nature as near as may be, for the roughneſs of the Colours may be mended at the ſecond Operation.

Having duly placed and proportioned your red Shadows; in the next place, put in your faint and blue Shadows about the corners of the Eyes and Balls, and your greyiſh Blue under the Eyes, and about the Temples, working them ſweetly and faintly over by degrees, heightning the Shadow as the Light falls; as likewiſe the hard Shadows in the dark ſide of the Face under the Eyebrows, Chin, and Neck, with ſome ſtronger touches on thoſe Places than on the light ſide of the Face, and ſo bring all your Work together to an equal roundneſs, giving Perfection to no particular Part at this Time, but take a full view

of your Object, and consider how near you hit the Life, not only in seeming Likeness, but Roundness, Boldness of Posture, Colouring, and such like. And having by this Time wrought your fainter shadows into the red shadows, you may venture to take a touch at the Hair, disposing it in such curls, folds and forms, as you shall see convenient for Grace and Ornament, only drawing it with some Colour suitable to the Life, and fill up the empty space with Colours, deepening it somewhat more strongly than before in the deepest shadowed places. And this may suffice for the First Operation

The second Operation, or Sitting. In this Sitting, the Party must take the same Place and Posture as before; and then be curious to delineate with your Pencil, the particular Varieties of Nature: As you drew them over but rudely before, you now must sweeten them with the same Colours, by working and driving them one into another; so that no rough Edge, nor lump of Colour may appear, and this must be done with a Pencil sharper than the former, by which means the Shadow may be soft and smooth.

Thus having done, proceed to the backside of your Picture; and if there is a Curtain, as is the usual manner, required, we will suppose it to be blue Sattin; and to do it, temper as much Bisse in a Shell as will cover a small Card, suffering it to be moist and well bound with Gum; then draw with your Pencil the outlines of your Curtain, as also of your Picture, and so lay it over very thin with a large Pencil, that it may be the whole ground you intend to do with Blue; and then lay it over again with a substantial body of the same Colour; in doing which, you must be swift, keeping your Colour moist, and not suffering any part to be dry 'till all be covered.

If

If it happen that your Curtain is to be Crimſon, you muſt trace it out with Lake, and lay the Ground with a thin Colour, obſarving where your ſtrong Lights and Reflections fall, there lay the Lights with a thin and wateriſh colour, and the Ground being yet wet, lay the ſtrong and hard Shadows cloſe by the other Lights, with a dark Colcur temper'd reaſonably thick.

Thus having laid your backſide, which in the ſame manner you may do with any Colour, your next Work is, to lay yonr Linnen of a fair White, and your Drapery flat with the Colour you intend it. Then take another view of the Face, and mark well what Shadows are too light, or too deep, and endeavour to reduce each Shadow to its due Perfection; then ſhadow the entrance into the Ear, and draw the Lines of the Eyelids the deepneſs of the Eyebrows, and all the moſt eminent Notes and Marks in the Face, doing them with a very curious ſharp Pencil, and then heighten the Hair, deepening it, as it appears in the Life, caſting over the Ground ſome looſe Hairs which will look very pleaſant, and make the Picture ſeem to ſtand at ſome diſtance from the Curtain.

In the ſhadowing your Linnen, which ought to be very curious, uſe Black, White, a little Yellow, and a ſmall quantity of Blue. The Black being deepned with Ivory-black; to which add a ſmall quantity of Lake, or Indico: And thus much for the ſecond Operation, from whence I proceed to the third and laſt.

The third Operation, &c In this, only obſerve to give ſtrong touches, where you ſee Cauſe, or find any Defect, taking more perfect Obſervations for the rounding of the Face, which at this ſitting is better done than before, noting diligently whatever may conduce to Similitude, which is the Principal in the Work; as Scars, Moles, *&c.* Caſt with the Eyes, Drawing the Mouth, *&c.* In

In caſe of Ornaments, as Garments, *&c.* the Ground being laid with Biſſe, then the deepening muſt be Lake and Indico, the Lightning White, very fine, faint and fair; and in the extream light places, let what has been ſaid of the blue Drapery ſuffice, as may be underſtood of all other Colours; and for the greater Ornament, you may mix the Light with Gold or Silver, *&c.*

If the Body be in Armour, lay liquid Silver for your Ground, and when it is well dried and burniſhed, ſhadow it with Silver, Umber, and Indico, and work the Shadow upon the Silver, as the Life directs, *&c.*

For Gold Armour, lay liquid Gold for the Ground, and ſhadow it with *Engliſh* Oak, Lake, and a mixture of Gold.

For Pearls, or that Colour, your Ground muſt be Indico and White, and the Shadow Pink and Black

For Diamonds, lay a Ground of liquid Silver deepned with Ivory and Cherry-ſtone black. And thus much for the Face, Body, *&c.* as to the laying in Water-colour; and the next that preſent themſelves are *Landskips.*

Directions for laying Landskips. &c. In this caſe always begin with the Sun-beams and Sky, the Lighteſt part firſt, and then the Yellow, which muſt be compoſe of Maſticote and White; the next your blue Skies with Smalt only, leaving no part of your Ground at firſt uncovered; but lay the Colours ſmooth all over, working the Sky downward toward the Horizon, ſtill ſuffering it to grow faint *&c.* as it draws nearer the Earth; and work the tops of Mountains and other Objects very remote, ſo faint, that they may appear as loſt in the Air; and as for your loweſt and neareſt Ground, it muſt be an Earth colour of dark Brown, inclining a little to Yellowiſh and Green, as the matter requires, and the

the next a lighter Green, and ſo ſucceſſively, as they loſe in their Diſtance, you muſt abate in their Colour; nor muſt nor muſt you make any thing you ſee at a great diſtance perfect, or abſolutely what it really is, becauſe it is altogether conjecture; you cannot abſolutely diſcern it, but expreſs it in Colours weakly and faintly, as your Eye judges it may be. And ever obſerve in this caſe to place the Light againſt the Dark; and ſo conſequently the contrary, which is an excellent way to extend the Proſpect far off, yet do it ſo as the Shadows may loſe in in their proportion of Diſtance, by degrees, their Force, as they remove from the Eye; obſerving further, that the ſtrongeſt Shadow muſt ever be neareſt. And thus much may ſuffice for Limning in Water colours, which if duly obſerved and practiſed, will wonderfully help the Learner: And in this manner you may paint upon Glaſs, by laying on the faireſt Colours, if it appear through the Glaſs firſt; but if otherwiſe, lay firſt a Ground, and eſpecially upon Copper.

CHAP X.

Directions for the moſt Curious Painting, or Limning in Oil, with the various Colours and Materials required on that occaſion, with their manner of preparing and ordering, as alſo Inſtructions to Paint to the Life, &c. wonderfully pleaſing, and much profitable to be known, as well by the Gentry, as thoſe that intend it for their Profeſſion.

AS this Noble Science in all Ages has been held in much Eſteem and Veneration among Men, it is now more eſpecially covered to be known and practiſed by either Sex; wherefore for the better Inſtruction, eſpecially of the Learner, I have thought fit to lay down the following

following plain and eaſy Rules, which being well obſerved and practiſed, may in Time bring him to be a great Maſter in the Science. But firſt, of the Colours to be uſed on this Occaſion, without knowing which, the reſt may prove ineffectual

The Blacks are Lamp-black, Sea-coal-black, Charcoal-black, Ivory black, and Earth of Collen The White, white Lead only. The Greens, Verdigreaſe, Terra-vert, and Verditer. The Yellows are Pink, Maſticote, Orpiment Spruce Oker, *Engliſh* Oker. The Blues are Biſſe, Smalt, Indico, and Ultramarine. The Reds are Vermillion, red Lead, *Indian* Red, Lake and Ornotto. The Colours indifferent are *Spaniſh* brown, burnt Spruce and Umber

Theſe are the principal Colours to be laid in Oil, and muſt for the greateſt part of them be ground upon your flat Stone with a Muller, with Linſeed-Oyl; though as for Ivory, Spruce, Oker and Umber, they muſt be burnt before they are ground; and as for Maſticote, Ultramarine, Verditer, Vermillion, Lamp-black, Smalt and Orpiment, you may temper them upon your Pallet with Oyl, ſaving yourſelf the labour of grinding, *&c.* and as for thoſe that are to be burnt, you muſt perform it in a Crucible; and though Linſeed-Oyl be common to all, yet in caſe with your white Lead you are to lay Linnen you muſt mix it with Oyl of Wallnuts, by reaſon the other will in a ſhort Time turn yellowiſh.

The next thing you are to take care of, is to have good Pencils of all ſizes a Pallet, or Board, to lay your Colours on, whilſt you are uſing them and an Eyſil to lay your Cloth upon, or againſt, and a ſtreining Frame, to which it muſt be nailed, and you muſt further have a Stay or Molſtick, which is made of Braſil, or ſuch Wood as will not eaſily bend, about a Yard long, at one

one End of which tie a Ball of Cotton in a piece of Leather; ſo that holding it in your left Hand againſt the Work, you may ſupport your right Arm with it, whilſt you are Working; and being thus furniſhed, you may proceed to the Work, &c. And firſt of the Complexion.

For a fair Complexion. Take a ſmall quantity of White, and twice as much Vermillion and Lake, temper theſe with the flat of a Knife's blade upon your Pallet, or Handboard, and uſe it for the deepeſt Carnation of the Face, adding moreover to a ſmall part of it more white, and reſerve that for a lighter Carnation. And yet another part being reſerved, add more white to it, 'till it come to the lighteſt colour in the Face; and then proceed to prepare the faint Shadows, and in doing it,

Take Smalt, and mix it with a little white, which may conveniently ſerve for the Eyes; then laying aſide the greateſt quantity, add to the reſt a little Pink, and theſe well tempered, will ſerve for the faint greeniſh Shadow in the Face; then proceed to prepare your deep Shadows: And in order to it, take Lake, Pink, and Ivory-black, a like quantity of each, and temper them together. And if the Face of the Party, or the Figure you are to copy require redder Shadows than what you have tempered, add more Lake; if yellower, more Pink; if bluer or greyer, then add more black.

Thus having prepared your Pallet with colours ſuitable to a fair Face, conſider again, in caſe the Complexion be more brown or ſwarthy, you may temper the colours as before putting moreover a little quantity of burnt Oker amongſt your Lake, Vermillion and White, that it may look ſomewhat tawny amongſt your heightned colours. In this caſe temper a little Oker, ſo much only as will juſt turn it, and for your very deep and very faint Shadows, you may uſe the ſame as for the former Complexion. For

For a tawny Complexion uſe the ſame in the general, as before, only let the Shadows be prepared of burnt Oker and Umber.

For an abſolute black Complexion, your dark Shadow muſt be as the foregoing; but as for your heightnings, you muſt take burnt Oker, Lake, with black and white, yet but a little of the latter, muſt be put in at firſt, that you may the better work it up by degrees: And note, that the ſingle colours laid at firſt upon your Pallet well tempered, according to the foregoing Directions ſerve for Shadows for all Complexions.

CHAP. XI.

What Pencils are to be uſed in painting a Face, and how to diſpoſe them. Directions to paint a Face in Oil Colour, and what Mixtures are requiſite for Garments, &c.

YOUR Pencils, how ſmall ſoever, ought to have a Stick about nine Inches long, cut or ſharpned at the fartheſt end into a point, and when you are to draw any Face, lay together two Duck's Quills Fitch-Pencils, two Gooſe-Quill's fitch'd, two pointed, and two briſtled, the pairs being exactly alike; and when you are to uſe them, having your Pallet in readineſs upon your Thumb, take them in your right Hand, and put the ends of your Sticks into your left Hand, keeping when you work, the hairy ends at a diſtance, leſt the colours intermingle, and ſo proceed to your work, *viz.* Your Cloth being ready primed, and ſtrained upon your Frame, ſcrape it over with a Knife's edge, not very ſharp, to take off the knots, if any appear, and ſo ſet your Frame and Cloth upon your Eyſel a convenient height, ſo that you ſitting upon a Stool level with the Party or Copy you draw, may

may the better have the Picture equal, &c placing it according to your Light, as I have directed in Water-Limning; then with a piece of Chalk draw the proportion of the Face upon the Cloth, making the place for the Eyes, Nose, Mouth, Ears, Hair, &c. Then take a Swan's-Quill pointed Pencil, and begin with some of the lightest colours in the lightest part of the Face, (the Cloth before being primed, or ground laid) as the heightning of the Forehead, Cheekbone, Nose, &c. on the lightest side, and when you have done that, next proceed to the mean parts, *viz*, those not altogether so light, as the Cheekbone of the Fore-shortning or dark-side; the Chin and upper Lip, and by degrees come to the reddest part of all.

Having thus far proceeded, lay the greenish faint Shadows in Places convenient, and where you see cause to moderate the harder Shadows; but have especial regard not to place the green where the red should be: And so all the faint and light beginnings being put on, take a Duck's-quill fitch'd, and a Goose-quill pointed Pencil, and begin at the Eyes to shadow with Lake, and trace out those parts of the Face therewith that require it, as the Eyes, Nose, Mouth, the compass of the Ears, &c. and do this before you lay on any Colour, lightly wiping it over with a Linen Rag, to prevent the overcoming of other Colours.

Having now put in all the Colours dark and light, take a large fitched Pencil, and sweeten the Colours: That is, go over the several Shadows with a clean soft Pencil, which by a gentle and dextrous handling will force or drive the Colours into each other, so that they will represent the laying on at once and not at several times This being done, begin again with your clean Pencils of such bigness as the Work requires; then the Party sitting in the Posture as before, take a curious View, and see what Defects you find in

the Work, and amend them; after that proceed to heighten or deepen your Shadows, as the nature of the Piece requires. and if a Beard or Hair be required, take a Goose-quill-briſtle Pencil, and put in the Hair about the Face, and rub in the greater Briſtle, heightening it up with your Goose-quill Pencil, and ſo your Work is done.

If Garments are required, called by Artiſts Drapery, for a red Garment, lay dead Colour with Vermillion, glaze it over with Lake, and heighten it with white. For Scarlet, Vermillion muſt be the lighteſt, deepened with Lake or Indian red. For a Crimſon, Velvet, lay burnt Oker, Vermillion, or Indian red, glaze it with Lake, and touch it up with Vermillion. For a ſad Red, heighten Indian red with white, and let all your deepenings be with Black, Pink, and Lake well tempered. For green Garments, heighten Biſſe and Pink with Maſticote, and deepen it with Indico and Pink. For green Velvet, lay the dead Colour with white, and a little Lamb-black, glaze it with Verdigreaſe, deepen it with Indico and Pink, and highten it with Pink and White. For yellow, take yellow Oker Maſticote and Umber, lay the dead Colour with Maſticote and White in the higheſt Places, and with white and Oker in the meaneſt, and with Umber in the darkeſt, glazing when dry with Pink.

For blue Garments, take Indico and white, laying firſt the white in its due Places; and then your mean Colour, *viz.* Indico and White well tempered in their due Places; then deepen it with Indico, and glaze it with Ultramarine when dry, *&c.*

For purple Garments, take Oil, Smalt tempered with Lake, and white Lead, and heighten it with the latter.

For black Garments, let the dead Colour be Lamp-black, and a little Verdigreaſe, and when it is dry, go over it with Ivory-black, and having heightned,

heightned it with white, go over it with Ivory-black and Verdigreaſe.

For orange colour Garments, mix red Lead and Lake, laying the lighteſt prats with red Lead and white; the mean parts with only red Lead, and the deeper with Lake; and if need requires, you may heighten it with white.

For cloth-coloured Garments; for the ground, take Umb r and white, and for the deeper Shadows Umber and black. and for the mean Umber and Oker, and whiten it with Oker and white. And thus much may ſuffice for Limning and Painting of theſe Kinds.

CHAP. XII.

The Curious and Myſterious Art of Etching and Engraving in Gold, Silver, Copper, Steel, &c. diſplayed and made manifeſt in eaſie and plain Rules and Methods, by which an unexperienc'd Perſon may attain to the Knowledge thereof, and the Expert be wonderfully improved, &c.

TO introduce this curious Art, I think it convenient to begin with Etching, the better to give a Light into what ſucceeds, *&c.* and firſt of the Ground.

In this caſe, procure three parts of Virgin's-wax, and one of Aſphaltum, one part of Maſtick, and one part of clarified Roſin, put all but the Wax, putting that into a new glazed Pipkin or Pan, and let it boil over a gentle Fire; at what time put the other Ingredients to it which being melted, pour it out into fair cold Water, keeping back the dregs; and when it is cold, work it into a Ball, tie it then in a Rag ſo cloſe, that no dregs may come thro', and uſe it upon your Copper as you have occaſion.

In preparing your Copper, obſerve that it be well poliſhed, not lying highe in one place than another, nor no where uneven and if you eſpy any ſpecks or diſorders in it, coal it over with a well burnt Charcoal and fair Water, and ſet it aſlope to dry; which done, ſcrape ſome very dry Chalk or Whiting upon it, and rub it over with a Woollen Rag, not touching the Face of the Plate with your Finger, till the Ground be laid, which may be done in this manner *viz*

Put lighted Smallcoal into a Chaffing-diſh, and lay the Plate on the wrong ſide over it that a gentle breathing of Heat may come through; then take your Ground in the Rag, and rub it gently up and down the Copper, till it coming through the Covering, by reaſon of the Heat, may ſufficiently cover the Plate, nor too thick nor too thin; and then whilſt it is warm, take a Duck's Feather, and ſmooth it to an exact evenneſs, but beware the Copper be not too hot, for if it ſoak, the moiſture of the ground is gone; and then in Etching it will crack and fly up; and when it is according to your mind, ſuffer the Plate to cool; then grind a piece of white Lead in Gum-water, not very ſtiff, and make the white of convenient ſtiffneſs, to waſh over the firſt ground of the Plate with a Bruſh dipped therein, till you perceive it every way ſmooth, going over it with another Bruſh of ſoft Furs, and ſo let it dry

The ground thus laid, take your Draught after which you are to work, and ſcrape on the back-ſide of it ſome red Chalk, moving it all over, and ſcrape over that ſome Smallcoal, very fine, ſuffering it to mingle with the Chalk; and then with a Pencil or Hand-Bruſh rub it up and down till it be ſmooth and even, and ſo place your deſign upon the Plate, and with a blunt Needle, or Steel-point, draw over the out Stroaks; and then you muſt have ſeveral Needles, according to the ſmallneſs or largeneſs of your Stroaks in the Copy

Copy, and with them in a Tin-pencil, Frame or Stick, according as the bluntneſs or ſharpneſs requires, take out all the black ſtroaks, preſſing ſo hard, that the Needles may paſs thro' the ground, and make ſome ſmall impreſſion on the Copper, ever obſerving when you lay by your Plate, to wrap it up in a Paper to prevent ſcratches, or the Air ſpoiling the ground, wiping away, as you work the ground the Needles brake up, with a light Pencil, not ſuffering the ground to lie too long on the Plate before you finiſh, for the Air drawing out the moiſture of the ground, the Eching will appear broad and deep, working off black and unſeemly; or when ſometimes you ſuppoſe it eaten ſufficiently, you will find it defective in many places, and in froſty Weather you muſt wrap the Plate as well in a Blanket as in a Paper, for if the Froſt take the Copper, the ground will ſtart from it, and ſo the Aqua-fortis will ſpread under it, and keep no certain form.

Having obſerved theſe Directions, take green Wax, and melt it in a new Pan or Pipkin, and with a Pencil cover the edges of the Copper, and ſtick the Wax round about like a Wall, to keep in the Aqua-fortis; that done, and it being firmly ſtuck on, take the third part of an ounce of Aqua-fortis, and break it with other Water of the ſame kind, that has been once or twice uſed, taking at leaſt two parts of the old to one part of new; and in caſe you have no old Aqua-fortis, then inſtead of it, uſe ſtrong Whitewine Vinegar as a mixture; and for ſuch Figures or Things as you would have lie fine and ſweet, you muſt pour out your Aqua-fortis into ſome earthen Veſſel, and then waſh off what remains with fair Water, and ſuffer it to dry; then melt Candle-greaſe, with a little ground, and with a Pencil cover the places you would have lie faint; then pour on again your Aqua-fortis; and ſo continue

to do as often as you can conceive it convenient; then melt off the ground over a gentle Fire, and with a clean Rag wipe it off, and you will have the perfect impreſſion of the Copy on the Plate, which you may work off at the Rowling Preſs to ſerve your Occaſions. And thus you may do upon any Metal the Water will take, *&c.*

From Etching, I proceed to the Art of Engraving, And he that would be expert herein, muſt have a regard to true Drawing; wherefore, I would adviſe the unskilful well to conſider what I have laid down of that kind, and ſo provide himſelf with Materials for the performance of this curious Art.

In the firſt place, Be ſure to chuſe a good Oil-ſtone, free from Pin holes or Flaws, not too hard nor too ſoft; therefore the better to furniſh yourſelf aright, you muſt conſult in what the ſtreſs of your Buſineſs will lie; for if you intend Picture or Letter Work, accounted more curious than Marks, or Arms uſed by Goldſmiths and Pewterers, you muſt have your Gravers accordingly ſhaped and tempered; for Goldſmiths *&c.* Gravers are frequently crooked, the better to come at hollow places *&c.* but for Copper, or any Plate, that may be eaſily come at, the ſtrait Gravers are ever held the beſt, and if you ſuſpect their goodneſs, try whether or not they are File proof; and if ſo, they will fit your purpoſe, tho' at firſt, by reaſon of their temper, they may appear brittle, and ſometimes break ſhort, yet being ground out, they will ſtill grow better and better, and come in a little time to an excellent Temper.

As for the forms of Gravers, and their uſe, the ſquare one makes a broad ſhadow Stroak or Hatch, and that which is in form of a Lozenge, a narrow deep one, the one being appropriated to large, and the other to fine Stroaks, yet if your Work be curious, a middle ſize between theſe will the better accomodate you, which will render your

your Strokes or Hatches more graceful, and yet carry with them sufficient Force and Vigour.

In case of whetting your Gravers, which is frequently required, pour a little fine Olive-oil upon your Stone, and laying that side which you intend shall cut the Copper, flat upon it; whet it very flat and even, and to that purpose, carry your Hand very steady, continuing an equal Strength, and placing your Fore-finger firm upon the contrary side, so that you may have more power to guide it with exactness; then turn the unwhetted side, and use it in the same form and manner, that there may be a very sharp edge; then turning uppermost that edge, which in the former manner you have whetted, setting the end of your Graver obliquely upon the Stone, bear your Hand with an exact evenness, to the intent it may prove very flat and sloping, in the form of a Lozenge; and in this you must take great care; for if it be not well and rightly whetted, you can never Grave well.

Observe when you have a Graver whose Handle is a round or oval Knob, if you would prevent it from running into the Copper, or the other Metal you Grave, further than is convenient, then must you cut off that part of the Knob which lies in a Line with the point of the Graver, and make it as level as you can with the Point; nor then will it hinder your Hand from carrying an even Stroak, which otherwise it will do, especially in working a great Plate, by bearing too much upon the Copper; and in holding it, place the Knobside, or that part of the Ball not cut off, in the hollow of your Hand, extending your Fore-finger towards the Point, and laying it opposite to the Edge that is to cut, and place your other Fingers on the one side of the Handle, and your Toumb on the other side of the Graver, in such a manner, as with ease you may guide it flat and parallel with the Plate, being ever very careful

careful that your Fingers do not interpoſe between the Plate and Graver, leſt it hinder you in carrying it level with the Plate, by hindering you from making your Stroaks with freedom and neatneſs.

Further, to fix you in this Affair, you muſt have a ſtrong round Cuſhion of Leather filled with Sand, about half a Foot over, and four Inches in the Diameter, riſing a little in the middle, and ſloping towards the brims, but not much, and this muſt be to lay your Plate on, that you may turn it at leiſure; and if you are to make ſtreight Stroaks, hold your Graver in a direct Line; or in caſe you would have your Stroaks broader, and deeper in one place than in another, you muſt lay more or leſs ſtreſs, as you ſee occaſion, obſerving in all ſtreight Stroaks to hold your Plate ſteady and firm upon the Cuſhion and the Table, or Bank on which it ſtands well fixed; but in crooked and winding Stroaks you muſt hold your Hand and Graver ſtedfaſt, and only turn your Plate, or otherwiſe you cannot command your Hand to that neatneſs as in many caſes is required, obſerving at the ſame Time, ſo the more ſteddineſs, to keep your Elbow fixed upon the Table, and your Eye on the Plate ſcraping your Work as you go with the edge of a Burniſher, to take off the Roughneſs; yet be careful that you make no ſcratches, and the better to ſee what you have done, rub the place over with a piece of black Felt dipped in Oyl; and if any ſcratches appear, with your Burniſher rub them out; and if any Stroak be too hard, in the ſame manner you may make them fainter. And in caſe your Graver ſhould happen to appear very hard, which by its exceſſive brittleneſs in often breaking is known, lay it upon a burning Charcoal till it grow yellow; and then dip it in Water, and it will, by often ſo doing, render it of a better temper, but if it be blunt in a ſhort time cutting,

ing, then it is too ſ ft and you muſt heat it in the F re, and dip it in Lime-juice, or Vin gar; and thus much for the manage ment of the Tools, &c the which, by a little practice, will ſoon grow natural.

Another material Thing in th s Art is to be conſider'd, which is, take the Impreſſion you are to cut or grave upon your Plate; and in this caſe heat your Plate over a Fire of Small-coal, and having a piece of fine Bees-wax ty'd up in a fi e Rag, worked l ke a Ball, that it may ſit cloſe, wipe the Plate over with it, when it is hot enough, very ligh ly, till you perceive it is covered with Wax, ve y thin and even, laying it with a Feather, in which at firſt you may find ſome d fficulty, but Uſe will render it eaſie; and in this caſe, if you are to imitate an exact Copy, it muſt be ſo ordered, that it may ſtand the contrary way on the Plate; and therefore, in conſideration thereof your beſt way will be to t a k it over with a black Lead Pencil, eſpecially in caſe of a ve y old Picture, which being done, take a piece of poliſhed Ivory, and placing your Picture exactly on your Plate, th e p int ſide downward, rub it lightly, and you will perceive the exact proportion of the Print remaining upon the Wax or Pla e; then take a S eel Point and over each particul r Limb, &c eſpecially in the out Stroaks and there will be but little d fficulty to mark the Shadows which lie before you as you engrave the Work, and the r adier it will be, if ſo you note how far you Sha o s ſhou d be da k, and how far light, with your black Lead, before you rub it off.

The carrying of the Hand in this kind will at firſt ſeem difficult, as to the depth of your Streaks; but in general obſerve, ever to carry your Hand with ſuch a ſl ght, that you may end with the ſame faintneſ, or darkneſs you begin: And in caſe one part require more deepneſs and blackneſs,

blackneſs than another, you muſt do that by degrees; and that you may the more expertly do it, obſerve that your Streaks be not too cloſe, nor too wide; and therefore to bring your Hand in the better, practice at firſt by ſuch Prints as are but looſely ſhadow'd, leſt by a tempting to imitate thoſe more dark and cloſe, you happen to be puzzled where to begin, and where to end, but Practice will inform you.

As for Letters: In caſe of Copies, the Letters muſt be gone over with unagummed Ink, or with black Lead, and laid on the Plate when waxed as the former, unleſs you are ſo dexterous at Writing that you can draw them by Hand, or with a Steel point on the Plate, in true Cut.

But if a Map, or other Mathematical Inſtrument, be required, every Circle or Perpendicular muſt be drawn over as before, or you cannot exactly imitate. But in caſe of a Face, or Coat of Arms, or Inſtruments not to be painted, then you may black over the backſide, as in Etching; but you muſt uſe for engraving a Wax ground.

CHAP. XIII.

The Myſtery of cutting in Wood, laying Gold or Silver, ſolid or liquid; preparing Colours for the painting of Pictures, or Prints; refreſhing old Paintings, or Pictures; colouring Maps, Buildings, Landskips, and many other curious Things.

As for cutting in Wood, in relation to Pictures, or the like.

YOU muſt prepare your Wood in the manner of a Plate, though an Inch thick, or according as the Deſign requires, either Box or Pear-tree, rendring it by plaining as ſmooth and level as a piece of Paper; which done, having a draught of your Deſign, you muſt rub the Wood gently

gently over with a ground Paſte made of the fineſt Flower; and t en fix your Draught, or Copy upon it; when ſuffering it to dry, rub the backſide of the Paper, which muſt be uppermoſt, with your wet Finger, till you crumble it off ſo thin, that that the Print plainly appears upon the Wood, as if it had been painted or drawn thereon with a Pen or Pencil.

Having thus pr pared your Wood, if it be ſmall, faſten it up with Quoins, that it move not, unleſs there be occaſion, or as the Streaks require, and then having a fine ſmal Knife, in the nature of a Pen knife, but much leſs and thinner, eſpecially for the fine Streaks, cut out all the white S reaks and Ground, and ſuffer the black ones to ſtand, ſharpening the fine Streaks, and bringing them to an edge that they may not print black or dull; and above all, be ſure to do it with with ſo light and curious a Haud that you break none of them; for if ſo, you much deface and hinder the Wo k, they not being to be repaired; and further obſerve, to leave a good Foundation to the Streaks, though never ſo fine at the top, leaſt by the force of the Preſs, they break in the working.

You may have your P ttern, or Advice, if it be new, drawn upon the Wood with black or red Lead, though the former way is the ſecureſt from being rubbed out, or injured, *&c.*

To write or guild with Gold and Silver, an eaſie, and curious method, &c. If you would have fair Letters appear in Gold or Silver, take Gum-Armoniack, and grind it with a little Juice of Garlick, and put thereto a few drops of weak Water of Gum-Arabick, and ſo make it to the thickneſs of Ink, that you may conveniently write with it, and ſo write or draw what you think convenient, and ſuffer it to dry a little, but not too much, leſt it take not the Gold or Silver; nor too little, leſt it drown them. Then lay your

your Gold or Silver in Leaf upon a Leather Cushion, being a piece of Calve's skin stuffed, with the rough side outwards; and so with a sharp Knife cut it into what proportion you will, suitable to what you have written, and taking it up with a loose piece of Cotton-Wool, on which you have breathed, cover with it the Place intended, pressing it down hard, and where the Gum-Water is, it will take it then brush away with other Cotton what it has not taken, and being dry, burnish it with a piece of polish'd Ivory and it will appear very splendid.

To write or guild with liquid Gold or Silver, &c. Take shell Gold, which is made of the ragged edges or cuttings of Leaf Gold; and when you are desirous to use it, put it in a little fair Water, tempering it up with a clean Pencil, and lay it on with a Pen or Pencil in what form you please, either by way of Writing or Guilding; and when it is dry, rub it over with a Dog's, Calf's, or Horse's Fore-tooth, and it will be very shining and pleasant. And of this, as of the former, you may lay on more or less either for the guilding Picture Frames, Coaches, Rooms, or the like. As for Lacquering, it only consists of carrying a Pencil dipped in rectified Spirits over Leaf Silver, which changes it to a Gold Colour.

How to prepare Colours to colour printed Pictures, and thereby render them Beautiful For a curious Violet colour, take Turnsole, being a Dye infused into a piece of Linnen Rag, heat it in Vinegar, and it will give you the Colour desired, after which dissolve in it some Gum-Arabick, and use it as you see fit.

For a curious Yellow, take Gum-booge, and dissolve it in fair Spring-water, over a gentle Fire.

To make a transparent Red, take Brazile, grind it, and heat it over a Fire with small Beer and

and Vinegar, put in a little Powder of Allom and Gum-Arabick, and ſuffer it to boil till it taſte ſtrong, *&c.*

For a tranſparent Purple Colour, grind Log-wood, and boil it in all reſpects as the former.

For a curious Blue, take fine Litmos, and cut into ſmall pieces, lay it for the ſpace of twenty four Hours in a weak Lake Gum-water; to make which you have been before directed, and it will anſwer your Expectations.

To make a curious Green, take the Juice of Rue, and a little Verdigreaſe.

For a light Green, take *Sap green flower de Biſs*, or Tawny-green, and ſteep them in fair Water.

To ſhadow Greens, ſteep Indico and yellow Berries.

To ſhadow Blues, take Litmos and Indico, ſteeping them in the Lees of Soap-aſhes, and uſe them with Gum-water.

To make a good Brown, take Ceruſe, red Lead, Pink, and *Engliſh* Oker, mixing them with Gum-water.

For an Orange-colour, take red Lead, and yellow Berries, and mix them with Gum-water.

For a curious Fleſh-colour, take white Lead, red Lead, and Lake with Gum-water.

To make a Colour for precious Stones, take Verdigreaſe and Varniſh for an Emerald, Florence Lake for a Ruby, and Ultramarine for Saphire.

How to Colour Maps, and what is to be obſerved therein. In this caſe, as well as in other printed Pictures, 'tis no more than to ſet them out in their proper Colours, which you muſt accordingly conſider, as the nature of the Thing requires, it being impoſſible to direct in particulars; however obſerve, the Water muſt be a fair Blue, Sky ſomewhat deeper, Trees Green, Houſes in Maps are uſually red and Ways yellow and green: And to theſe and the reſt ſuit any Water-colour you think ſuitable, mentioned in this Book.

Colouring for Landskips, and Buildings at large, very proper. In Landskips, for the farthest Hills, use burnt Umber: for the lightest put some yellow to it; and for other Hills, lay Copper-green thickned on the Fire, or in the Sun; and for those further off, mix with it some yellow Berrie, and let the fourth part be done with green Verditer, and the farthest and faintest places with blue Bisse; for the lightest places, use white, and shadow it with blue; as for the Highways, do them with white or red Lead, using for variety yellow Oker, shadowing it with burnt Umber; and it may likewise be used for sandy Rocks and Hills; and as for other Rocks, you may lay them with several Colours; but at a distance they must appear blue, as in the Air; as for the Water, do it with black Verditer and white, shadowed with green, and with blue Verditer, when the Banks cast a green Shadow upon the Water; but when the Water is dark in the Shadows, shadow it with Indico, blue Verditer and green, *&c.*

How to Colour Building, &c. In colouring Buildings, you must use much Variety, the better to set them off; yet not so as they may appear extravagantly adorned, or contrary to the use of this kind; but for Walls and Coverings use a mixture of white and black, as likewise for other materials; but if a Brick-house, use red Lead and white, and where the Houses stand thick together, the use sundry Colours suitable to the occasion.

To cleanse old Pictures, and render them fair and pleasant. Take Wood-ashes, the whitest may be had, sift them thro' a fine Lawn-sive, and with a Spunge and fair Water wash the Picture gently over, not rubbing it hard, least you impair the Shadows which being done, and the Picture dry, take distilled Varnish and rub it thin and gently over, and it will create a lasting Freshness; or for want of this, you may do it with the white of Eggs

Eggs exceeding well beaten, or with Gum-water. But note, the Pictures to be thus uſed, muſt be ſuch as are laid in Water-colour Oil.

CHAP. XIV.

Inſtructions for reſtoring Tapeſtry Hangings, Carpetts, or Turkey-Chairs that are faded or decayed, to their lively Colour; to prepare Flock Cloth for Hangings; Spaniſh white, Size, Allum-water and Gum-Arabick-water, how to make them; as alſo to thicken Cloth for Skreens, &c.

To refreſh Hangings, or Tapeſtry, Carpetts, or Chairs.

BEat the Duſt out of them in a dry Day, as clean as may be; then rub them over well with a dry Bruſh, and make a good Lather of Caſtle or Cake-Soap, and rub them well over with a hard Bruſh; then take fair Water, and with it waſh off the Froth, and make a Water with Allom, and waſh them over with it, and you will find, when dry, moſt of the Colours reſtored in a ſhort time; and thoſe that are yet too faint, you muſt touch up with a Pencil dipped in ſuitable Colours; and indeed you may run over the whole piece in the ſame manner with Water-colours mixed with weak Gum-water, and it will cauſe it, if well done, to look at a Diſtance like new.

To make Flock Cloth Hangings, &c. To do this take a coarſe Canvas, ſpread it even upon a Floor or Table, then Flocks or Shreads of Woolle grind them as ſmall as Duſt, and having ſiz over your Cloth with a good ſtrong Size, ſi whilſt it is wet the Flock through a Sieve ve fine, and having done it even in all places, run Rollar of Wood or Iron over the piece, to pr them down cloſe, and ſo ſuffer them to dry the Shade, leſt the Sun or Fire parch and ma

them crack, and when dry, bruſh them lightly over with Allom-water; and ſo draw your Deſign with black and red Lead, Charcoal-black, or any other Colour you fancy, and it will at a Diſtance look like Tapeſtry, and be very laſting in a Room where no great Fires are made.

How to thicken Linnen Cloth for Skreens, Bed-teaſters, and the like. Grind Whiting with Size, and to prevent its cracking, add a little Honey to it; then take a ſoft and ſmooth Bruſh, and lay it upon the Cloth, and ſo do two or three times, ſuffering it the mean while to dry between layings on, and for the laſt laying, ſmooth it over with *Spaniſh* white, laid with Linſeed-oil; the Oil being firſt heated, and mixed with a ſmall quantity of the Litharge of Gold, the better to endure the Weather, and ſo it will be laſting.

How to make Spaniſh *White.* Take fine Chalk with a tenth part of Allom, grind them with fair Water till very ſoft, and then bring them to a thickneſs and make them up into Balls, lay them to dry leiſurely, and then heat them well in the Fire, and ſo uſe them.

To make a very good Size uſeful upon ſundry Occaſions, &c. Take Glue a pound, ſteep it in four gallons of Water 'till it be diſſolved; then take a pound of the ſhreads, or cuttings of Gloves, or other the like Leather, and boil them in the Water wherein the Glue has been diſſolved, over a gentle Fire, 'till it feel very clammy between your Fingers, and when that is done, ſtrain the liquid part through a Sieve, and keep it for your uſe.

To make Allom-water the beſt way. Take a pound of Allom, bruiſe it, and put it into two gallons of Water, adding a ſmall piece of Gum-Arabick; and having ſcummed it after a gentle heating, from the Froth or Scurf, ſtrain the Water, andkeep it for your uſe; and eſpecially to waſh over printed Pictures lightly before you paint or colour

colour them, by which means, they being afterwards ſuffered to dry, the Colour will be prevented from ſinking or ſoaking in unſeemly.

To make Gum-Arabick-water for all Occaſions. Take of the tranſparent or white Gum two ounces, half an ounce of Allom, and two quarts of Spring-water, diſſolve the former in the latter over a gentle Fire, ſcum it, and take away the droſs, and ſo uſe it with Colours, or in making Ink, or the like; and if you perceive it too ſtrong, you muſt put more Water, but if too weak, then more Gum, taking out the Droſs as before.

Read of theſe Matters a Book of New Curioſities of Art and Nature, containing Secrets in Phyſick, Japaning, Painting, Varniſhing, Dying, Beautifying, Hunting, Fiſhing, Fowling, Perfuming, Vermin-Killing, Fire-works, Moulding, Caſting Metals, Plaiſter of Paris; with Abundance of other curious Matters. Adorned with Copper-Cuts. By S Lamry, the King's Phyſician. With Abundance of other Curiosities, by Dr. *B.* Sold at the *Ring* in *Little-Britain.* Price 4 or 5 *s.*

PART II.

CHAP. I.

Metals and Minerals, their Quality and Generation, from what they proceed, and how produc'd; the Art of tranſmitting and making artificial Metals or Mineral, with other material Matters.

IN caſe of Minerals, and all Things inanimate, center'd or contained in the Bowels of the Earth, it is convenient to reduce them to four Kinds of Mixtures, *viz.* Metals, Stones,

Earth, or Juices, Nature producing them with Mixture and Participation of each other. And here by Earth I mean the ſimple Element only, of which as the Philoſophers affirm, all ſublunary Bodies are compounded, and though the Earth, according to the Scituation of Countries, and Differences of Climes, differs in Scent, Colour and Taſte, yet that proceeds from a Mixture of ſome other part, or Effect of the former; the pure elementary Earth being in all places one and the ſame; in which, and by the Operation of Heat and Moiſture, the others are generated; and as there are more or leſs of theſe, the Metals are finer or courſer: But to come nearer to our Purpoſe.

Gold is found in Grains or Sand, and Silver in Veins, and ſometimes twiſted and wreathed like Branches of a Vine; and at other times theſe Metals are found in Stones, with whoſe hardneſs they have incorporated themſelves, and being broken, are with fining Materials extracted. As for Gold, it is the moſt perfect of all inanimate Bodies, and has its Generation, as I have ſaid, from Heat and Moiſture in the Original; but of parts ſo well contracted and compacted by Concoction, that it is in a manner incorruptible, it being beyond the Power of any Element to prejudice or deſtroy it; for the Fire of the moſt ſubtle and piercing Quality, conſuming all other Metals by long Application, renders Gold more pure, nor can the Air, Water, or Earth diminiſh its Luſtre, but that it will again recover it; by which means it has deſerved the Eſtimation the World affords it; and is ſo ductil, that being expanded, an ounce of pure Gold will cover a place of twenty or thirty Feet ſquare.

Silver, as hinted, carries a fineneſs next to Gold, wanting little more than the Colour to be brought to its Perfection; wherefore thoſe that ſtrongly enveigh againſt the Tranſmutation of Metals,

have

have been convinced that there is a possibility to turn Silver into Gold, by reason Fire and artificial Concoctions may supply the Defect, of which there have been many Experiments; and from the even mixture, good temperature and fineness of its Parts, it is not only ductil and maleable, but endures the Fire with little waste; and admirable it is, that an ounce of fine Silver may be drawn out into a thousand four hundred Yards, and that too for the most part without breaking; and all this Extension may be guilded with six grains of Gold.

Copper is a Metal to the composition whereof a great quantity of Sulphur is required, and from a distemper'd Heat in the mixture, the fiery Heat proceeds, and being over burnt in its Composition, it is therefore less subject to Corruption, and is used about Engines of long continuance, because it rusteth not, and is found in mineral Stones of divers Colours, tho' the most effectual Colour is green or blue; and so often is it engendred near Gold and Silver, that many times following a Vein of it, much pure Gold, and oftener Silver has been found; and such Veins of Copper as make a superficial Shew, are (upon being digged) richer the deeper you go, which is occasioned by the moisture; and many times pure Silver is at the bottom, *&c.*

Iron, tho' very common, which lessens its esteem, and may be termed the Wall and Bulwark of Kingdoms, the Safeguard of private Persons, and the Handycraft Tradesman's *unum necessarium*, for without it few Imployments can subsist. As for its extraordinary hardness from over-much earthy Parts, or fixed Sulphur in its Composition; nor, but it has a proportion of Quick-silver in it, so that it will not without a very violent Heat be melted, nor will it break, but expand by force of Hammers, or other Violence, and receive an Impression by dilating it self: and altho' it is cold

and

and dry, yet by reason it is more porous than other Metals, it is of less Weight, and consequently subject to be consumed by Rust.

Lead is frequently found in the Silver-Mines, and indeed as often by it self, nor scarcely is there any Ore, but some quantity of Lead is found in its Mixture, as being by the abundance of its humidity serviceable to it, and especially in the melting of Gold and Silver, which cannot conveniently be done without the help of Lead; for in this case, by reason of its moisture, it does easily evaporate, carrying with it whatever is not Gold or Silver, and in its Weight comes neareſt to the former, *viz.* Gold, and in Colour to Silver, not being subject to corruption as Iron.

Tin is bogotten, or generated by a grosser sort of indigested Quick-silver, tho' much finer than Lead, by which means it becomes more white and hard, tho' from the ill mixture of its Substance, it is accounted the Bane of Metals, making them brittle by never so small a mixture; and the reason is, that by its incorporation it hinders the ductility, and disorders its former equal temperature; except in Lead, with which it better agrees, by reason of the moisture and softness; so that being incorporated, they become ductil and maleable.

Quick-silver is of a liquid penetrating Substance, and greatly in use, especially in refining Metals, agreeing with any sort, abounding with much humidity, which gives it Brightness and weight, and is held the principal of the Generation of Metals; nay, its very substance is transmutable into Metals enduring as well as those that come out of the Mines, the trial of the Fire and Hammer.

There are sundry Metals, called Artificial Metals, made by mixture of Minerals. As from a mixture of Tin, Copper and Brass, Bell-metal is made; as also for pieces of Ordnance, and sundry

other

other uſes; and in this caſe, a pound of Tin muſt be put from four to eight pound of Copper, according as you expect it, britler or tougher.

Latten is made of plates of Copper, put into Crucibles, and covered with powder of Jalamina, or a kind of half mineral Sulphur ſtrewed over it, and upon that the powder of beaten Glaſs, to which Fire being put, and the ſtem, or greateſt force of it kept in, it alters the colour of the Copper to a braſſy quality, and adds in weight eight pound to the hundred.

Pewter, a mixture of Lead and Tin, and has ſometimes in it, for the better hardning and keeping it together, a ſmall quantity of Braſs or Copper: And thus much for the Generation and Deſcription of Metals, which the Earth ſo abundantly produces for the the uſe and Benefit of Mankind.

Read more of this in *Nurb*'s *Husbandry*, and *Plat*'s *Subteraneous Treaſure*, and the *Compleat Collier*. Sold at the *Ring* in *Little-Britain*. Price 6 or 7 *s*. Alſo in *New or Modern Curioſities*. Price 5 *s*.

CHAP. II.

Inſtructions for ſoftning and hardning Metals and Minerals ſuitable to ſundry Occaſions, as uſed in Tools, Engraving, &c. *The Art of Soddering, Guilding, Burniſhing, and the like upon Metals,* &c.

To ſoften Steel or Chryſtal.

TAke of unq enc'ed Lime a pound, and as much of Soap-boilers Aſhes, and having made Ley therewith put your Steel or Chryſtal into it for the ſpace of twenty four hours, and it will eaſily be cut, or otherway ordered, *&c.*

To ſoften brittle and ſtubborn Iron. Take the Juice of Colts-foot and Hemlock, and when your Iron is hot, ſteep it therein, and it will become ductil, or you may do it by often quenching in Linſeed-oil.

How

How to make a Powder to ſoften Metals. Take your Metal and heat it well; then take ground, or beaten Glaſs, common Salt and Brimſtone, and ſprinkle them upon your Metal whilſt it is red hot, and afterwards burn them off in the Fire.

To make Iron or Steel as ſoft as Copper, the better to Engrave upon, &c. Take Chalk and Allom, bruiſe them well together, and being wet with the juice of an Onion, daub it over your Metal a Finger thick, and thruſt it into the Fire, ſuffer it to burn till it become clear, and it will anſwer your expectation.

To make Iron or Steel ſo ſoft, that you may twiſt it at Pleaſure. Take the Gall of an Ox, mix it with Oil of Turpentine and Urine, heat your Metal, and ſtrow upon it Powder of Vitriol; then waſh it over with the Materials before-mentioned, till it comes to be ſomewhat cool, and it will be very flexible.

Inſtructions to harden ſoft Iron. Take the Concoction of Vervein, Houſleek-Juice, the Juice of Hore-hound, Radiſh or Rue, diſſolve in them ſome Allom-powder, and the buſineſs will be effected, if you anoint your metal when hot with the liquid part.

To harden all manner of Iron Tools or Inſtruments. Take the Leaves or Juice of Cinquefoile, or five-leaved Graſs, the Juice of a Limon, or White-wine Vinegar, and dip the pieces of Metals or Tools in it when hot; and do ſo often, and you will find the advantage.

To make Iron as hard as Steel. Take the juice of Roman-Nigrel, and Mouſe-Ear, Herbs ſo called, and ſtrike the Metal, being hot; and by this means Tools may be made of it that will cut Iron.

To harden Metal ſo that it ſhall not crack nor flaw, &c. Take Oil of Spike, and Mutton Suet, and daub over the Metal hot; then plunge it ſuddenly in cold Water, and the buſineſs will be effected.

To harden Augres, Files Chizels Mattocks &c for uſe Take the Juice of Radiſh, or Coleworts, mix it with Ley made of Soap Aſhes heat it over the Fire, and when your Tools are well heated, or red-hot in the Fire, quench them in it

To make Tools ſo hard, that they will cut Iron, Copper, &c Take ſalt peter and Copperas ſtrew them in powder upon the Tools when red-hot and then quench them in the diſtilled Water of Shell-Snails and your expectation will be anſwered

To Colour or Varniſh, Tin, Copper, or the like Metals. Take half a pint of Linſeed-oil, warm it over the Fire, and ſcum it; then put therein bruiſed Amber, and Aloepaticum, of each a quarter of an ounce, and ſuffer them to boil up to the thickneſs of an Ointment; after that, ſet them in a cloſe earthen Veſſel under Ground for the ſpace of four Days, and when you uſe it, ſtrike over your Metal with a Bruſh or Pencil, it being at the ſame time hot over a pan of ſmall-coal, and it will be of a curious Amber, or Golden colour.

The manner of gilding upon Metals, viz. Take Wine-ſtone, Verdigreaſe, and Sal-Armoniack, ſeeth them in White wine, with ſome common ſalt, ſtrike over the Metal indifferent warm with the liquid part, and ſuffering it to dry a little, take Water of Leaf Gold, and lay it on, which by the vertue of the waſhing will ſtick faſt, ſo that with a burniſher of Ivory you may finiſh it in its proper Luſtre.

How to make a Water for the Guilding Metals. Take three pints of ſpring-water, two pounds of Roch-Allom, an ounce of Roman Vitriol, and as much Verdigreaſe and Orpiment, boil and ſcum them; and then put in Water of Tartar and Bay Salt, of each two ounces; and when the Ingredients are well diſſolved, and come to a thickneſs, ſtrike over your Metal therewith, dry it againſt the Fire, and burniſh it.

How to guild Iron or Steel with Quick-silver and Gold Foil. Take Vitriol and Sal-Armoniack, of each an ounce, and of Allom two ounces, beat them fine and boil them to a thickneſs in fair Wa er; add a dram of Verdigreaſe, and half an ounce of Sublimatum, and ſperce over your Metal with it; when having mixed your Gold and Quick ſilver together, lay them on with a Leather Spa ula as ſmooth and even as may be; then ſuffer the varniſh to take it, and burniſh it over.

To make Iron, or the like, a curious blue, or Steel colour. Burniſh your Metal to a brightneſs, and take Cows-hoofs, burn them and hold the Metal over the ſmother or ſmoak of it, and it will anſwer the end deſigned, *&c.*

To make Copper, &c. a Silver Colour. Take Bay-Salt Allom and Wineſtone, grind them to powder, adding in your grinding ſome Leaves of Silver and put them into an earthen Pot, cloſe ſtopped with your copper amongſt it; and then taking it out, rub it over with ſome of the powder and burniſh it.

A very good way to burniſh Iron, or other Metals. Take of Alcœparicum, Citrinum and Amber, each an ounce make them into powder, and place them over a gentle Fire in a well glazed Pot; and when you perceive it melted, put to it a quantity of ſcalding Oil, and when the mixture is well made, let it cool; and ſo your Metal being glowing hot lay a little piece upon it, and rub it over

To make a good Sodder for Iron, or any hard Metal being cold Take of Sal-Armoniack two ounces, two ounces of common Salt; the like quantity of Wineſtone in powder ſix ounces of thick ground Glaſs, two ounces of clock-ſpike; bruiſe and mingle them well together and ſo put them into a Linnen cloth, and ſuffer the cloth to be laid a Finge thick with ſoft clay, encompaſſing it on the outſide, and put them into a well glazed earthen

then Pot, with a lid or cover, and put that into another larger pot of Earth well covered, and ſuffer them to ſtand over a gentle Fire, that the heat may encreaſe by degrees, till all be red hot, and run; then ſuffer it to cool, and break it ſmall, and grind it to powder: Then in caſe of Soldering, make your Iron faſt, and Joints cloſe laid, lay a paper under them, and upon it ſome of the powder, as alſo between the Joints; then wrap it round with Clay, except the upper part, which you muſt leave open to ſodder at; then take the powder of Burras, and put it into Wine or Aqua-vitæ, and ſuffer it to diſſolve, when dipping a Feather therein, ſtrike over the upper part of the Joints, and it will begin to ſmoak and hiſs; the which ended, you may uncaſe it, and find it perfectly ſoldered.

A Way to ſolder warm, or rather hot, on Iron or Steel, &c. Take Gum water, beat it up with green Herbs of any kind, till it become a Paſte or of that thickneſs, and ſtrike it on your Metal, or lay it on the Joint, rubbing Soap over, at what time heat it, and it will prove a good Cement, *&c.*

To ſolder on Copper, &c. Take of Copperas an ounce, half an ounce of Orpiment, or white Arſnick, dividing it into two parts, and then make your Copperas run with Fire, then add one part of the Arſnick, or Orpiment; and after you have ſpread it thin on a fine Stone, add the other part; then beat it into powder, and uſe it as the Solder for Iron, *&c.*

To ſolder Latten, a Metal, or mixture of Metals, ſo called. Take a File, and make the parts to be joined very ſmooth; then put them together, and being hot, ſcrape your powder of Burras, and keep it cloſe till cool, and the Joints will be faſtened or fixed.

To varniſh like Gold, on Tin, Silver or Copper, &c. Take an Earthen-pot well glazed, with a cloſe

Lid to shut in, and put into it six ounces, or half a pint of Linseed Oil, an ounce of Alœpaticum, and the same quantity of Mastich, make them into a fine powder, and put them into the Oil, and cover the former pot with a bigger; the first having a small hole in the top through both Lids, the better to stir the Materials, and having closed the outward pot about with Clay, suffer it to stand over the Fire till it boils up to the hole, then cool it; and when you would experiment it, polish your Metal, and strike it over the Metal, being indifferently warm; and so do it over twice, suffering it to dry between either time, and the business will be effected

To lay Gold on Iron, a brief and easie Way. Take liquid Varnish one pound, and Oil of Linseed and Turpentine, each an ounce, mix them well together over a gentle Fire, and lay them as a ground whereon to guild with Leaf-Gold, *&c.* laying the Varnish very thin, and suffering it to dry.

Another easie Way to guild on Metal, &c. Take of Gum-Arabick, and Bole-Armoniack, each an ounce, put them into an Earthen-pot with a good close cover, set it over a gentle Fire, and when they are warm, put in two ounces of Linseed-Oil, and when they come to a Varnish thickness, lay them for a ground as the former, and on them the Gold, *&c.* observing for the better splendor, when it is dry to polish it

Read more in *Art's Master-Piece*, treating of Japanning, Painting in Oil, and many curious Matters. Price 1 *s.* Sold at the *Ring* in *Little Britain*

Also, *White's Rich Cabinet*, and *Hill's Legerdemain.*

CHAP

CHAP. III.

Directions for Cleanſing, Colouring and Perfuming of Gloves; the Way to ſcoure Ribbands without much much impairing the Colour; the Method of Waſhing, Starching, &c. Silks, as Luteſtrings, Lawns, Tiffanies, Sarcenets, &c. with other Matters of Curioſity.

Foul Gloves to cleanſe without wetting

TAKE your Gloves, and lay them upon a clean Board, and make a mixture of Fulling-earth and powder of Allom very dry, and paſs them over on every ſide with an indifferent ſtiff Bruſh; then ſweep off that and ſprinkle them with Bran and Whiting a conſiderable time; and ſo duſt them well, the which if they be not extraordinary greaſie, will render them clean as at firſt; but if they be greaſie, you muſt take out the greaſe with crumbs of toaſted Bread, and powder of burnt Bone; then paſs them over with a Woollen-Cloth dipped in Fulling-earth, or Allom-powder; and ſo you may cleanſe them without wetting, which many times ſhrinks and ſpoils them

To Colour Gloves. Take your Colours ſuitable to your Intention; if dark, take *Spaniſh* brown and black Earth; if lighter, yellow Oker and Whiting, and ſo of the reſt: Mix them with a moderate Size, and daub the Gloves over with the colour wet, and ſo ſuffer them to hang till they dry by degrees; then beat out the ſuperfluity of the colour, and ſmooth them over with a ſtretching or ſleeking Stick, reducing them to their proper Shape.

To make an excellent Perfume for Gloves. Take Amber-greaſe a dram, Civet the like quantity, Orange-flower Butter a quarter of an ounce; and with theſe well mixed and ordered, daub them

over gently with fine Cotton-wooll, and ſo preſs the Perfume into them.

Another good Perfume on the like Occaſion Take of Damask. or Roſe-ſcent, half an ounce, the ſpirit of Cloves and Mace, of each a dram, Frankincenſe a quarter of an ounce mix them together, and lay them in Papers between your Gloves, and being hard preſſed, the Gloves will take the Scent in twenty four hours, and hardly loſe it afterward.

To cleanſe caſt Ribbands, &c. Take your Ribbands and ſmooth them out, having ſprinkled them a little before with fair Water; then lay them on a Carpet or clean Cloth at full breadth, and having made a thin Lather of Caſtle-Soap go over them gently with a Bruſh or fine Woollen-Cloth; then having in readineſs Water, wherein a little Allom and white Tartar has been diſſolved, go over them till you ſee them clean; and ſo they will not only be clean, but the colour will be fixed from further fading, if you ſuffer them to dry in the Shade, and then ſmooth them with a Glaſs Slick-ſtone

To waſh black and white Sarcenets the beſt and ſureſt Way. Lay theſe ſmooth or even upon a Board or Carpet ſpreading a little Soap over the dirty places; make a Lather then with Caſtle-Soap, and having an indifferent fine Bruſh, dip it therein, and paſs over the Silks the right way, *viz.* longways, and repeat your ſo doing till you perceive that ſide is ſufficiently ſcoured, then turn the other, and uſe it in the ſame manner; whereupon take it up, and put it into fair Water ſcalding hot, ſuffering them to lie till ſuch time as you have prepared cold Water, wherein a ſmall quantity of Gum-Arabick has been diſſolved; as alſo if for white Sarcenet, Smalt, into which you muſt put them and rinſe them well; that done, take them out, and fold them, clapping or preſſing

preſſing out the Water with your Hands on a Carpet that is dry, keeping them under your Hands in the like manner, till you find them indifferent dry; at what time in caſe of the white, you muſt have Brimſtone ready to ſmoak or dry in over, till it is ready for ſmoothing, which muſt be done on the right ſide with a moderate hot Iron.

To waſh and ſtarch Tiffanies, &c. In this caſe the hems of your Tiffanies muſt in the firſt undertaking be only ſoped a little; as alſo the Lace, if any be on them; then having a Lather of Soap, put them into it hot, and gently move them with ſqueezing them only, and not too roughly rubbing them, leaſt they break or crumple overmuch; and when you find they are pretty clean, rinſe them in warm Water, in which a little Gum-Arabick has been diſſolved, keeping them as much from the Air as poſſible; this done, make Starch of a reaſonable thickneſs, blewing it as you think convenient, adding a little lump of Allom to be diſſolved therein; and when it is boiled to a convenient thickneſs, ſtrain it, and during its being hot, wet your Tiffanies therewith gently, doing it with a ſoft Linnen Rag, and fold them up in a clean Linnen Cloth, preſſing them therein till they are ſomewhat dry, after which clap them between your Hands near a good Fire; and ſo finiſh the drying them over Brimſtone, and ſhape them to your purpoſe, and either fleck them over, or gently iron them.

Lawns may in the manner of the former be ordered: Only obſerve to iron them on the wrong ſide, and uſing Gum-Arabick-water inſtead of Starch, and according to what has been directed for black Sarcenet, any coloured Silks may be ordered, abating or augmenting as you think fit (according to the ſtiffneſs or limberneſs intended) your Gum-water.

To wash and ſtarch Point-Lace. Have a Tent prepred, fix the Lace in it, and draw it pretty ſtrait, then having a Lather of Caſtle-ſoap pretty warm, with a fine Bruſh dipped therein, rub over your Point gently; and when you perceive it clean on the one ſide, do the like on the other; then caſt fair Water in which a little Allom has been diſſolved to take off the Suds; at which time having very thin Starch, go over with the ſame on the wrong ſide, and on the ſame ſide iron it when dry; ſo with a Bodkin open it and ſet it in order.

To clean Point-Lace, if not over dirty, without waſhing. Fix it in a Tent as the former, and go over with fine Bread, the Cruſt being pared off, and when it is done, duſt out the Crumbs, *&c.*

For Tanning of Leathers.

For Upper Leathers. When they come from the Butcher they muſt be put in Water a Day and a Night, and if they be dry'd three Days, or thereabout, until they be ſoft, bruſh them once or twice on the Beam to take off the Fleſh: This done, take fair Water, and put it in a Tub, and thereunto put Broom cut ſmall every ſecond or third Day; to wit, to the quantity of ſix or eight quarts of Water, put about a gallon of Broom, or a good Hatful. This muſt be done three times, ſo that in ſix or nine Days your Liquor will be prepared. Then take out all the Broom out of the Liquor wherein you are to put your Hides, as many as your Liquor will cover: And you muſt draw them up and remove them from their poſture once a Day, or once in two Days at the fartheſt; ſo that they will be ready to have the Hair taken off in eight or ten Days time, according to the ſtrength of the Liquor. Then make another Liquor of about the ſame quantity, whereunto you muſt put about half a Buſhel of Pigeon's-dung, and therein let your Hides lie four Days; every Day taking them out to work them one

one Day on the Fleſh-ſide, and the other Day on the Grain-ſide alternatively. Take the ſame quantity of fair Water, whereunto you muſt put a gallon of Bark beat to powder, on one Day, and the next Day as much; which done, the third Day you may put thereunto your Skins, removing of them three or four times the firſt Day, caſting in every time a handful of Bark; the next Day doing the ſame once a Day only, and this for five or ſix Days; and when you ſee the Liquor become white, then you muſt make a new Liquor directly as the former, but you need not ſtir them in this Liquor but once in 4 or 5 Days, which will laſt longer than the firſt, but when it comes white alſo, it muſt be renewed as the other, which is thus to be done: Having taken out your Skins, put in as much Bark as you did at firſt for the two Days, and ſo renew your Liquors until the Skins be tanned thorougely, which, ordinarily ſpeaking, will be ſix Weeks or two Months. *For Sole Leather.*

As they come from the Butcher, take them and ſprinkle them on the Hair-ſide with Aſhes, the Fleſh ſide being compoſed as it was on the back of the Beaſt; and ſo being ſprinkled, fold it up as you have ſprinkled it, until no part of the Hair-ſide be left without Aſhes, and ſo keep it in a roll till the Hair will eaſily come off, which is ordinarily in three or four Days, if it be kept warm. When the Hair is off, caſt it into Water until the next Day: Then fleſh it and work it alſo at the ſame time on the Grain ſide, which bein done, put it into an Ouſe, or Bark Liquor, ſtrong or weak it is all one, but the ſpace of three Hours and ſtir it and remove it up and down for the ſaid time twice an Hour. Then take four or five pots of Water, into which you muſt put a Buſhel or thereabouts of Rye-meal ſcalded in a great Kettle of the ſaid water, and when it is ſcalded and ſtirred in the boiling Water, put it into

into the reſt of the Water in a Veſſel, and let it ſtand until it have a white Cream on it and work in Bubbles, which will be ſix or eight days; then put the ſaid Hydes or Backs into the ſaid Liquor for the ſpace of four or five days, handling or removing them once a day

Another Way for Tanning Upper-Leathers.

Firſt take the Hide, be it green or dry, and put it into Water for eight days, every day taking it up and put it down again the Water without working it till the laſt day, then fleſh it. Then put it into a peck of *Engliſh* Meaſure of Lime (which quantity will ſerve for any Hide) for the ſpace of ſeven weeks; but the whole peck muſt not be put in at once, but half of it to about four buckets of Waters, in which it muſt lie three weeks, and then hair it with a Shovel, *&c.* Then the other four weeks let it lie in the like quantity of Water and Lime, which done fleſh it over again; then put it into a Liquor made with freſh Water and Hens-dung (a peck of which will ſerve ten Hydes, and ſo proportionably) wherein it is to lie eight days, and handled up every day once, and then work it well out thereof, and grain it, which done, put it into an Ouſe made with half a Bushel of Bark and Water for one Hide, and ſo proportionably, wherein it is remain eight days, but every day twice or thrice handled, that is, taken up and put down again; then put it in a freſh Ouſe made as before, and there let it ſtay a month without handling, and ſo continue three months more in the ſame manner, renewing each month your Ouſe.

For Sole Leather.

The ſame Order is to be obſerved as above, but only the Sole-Leather muſt lie longer by eight days at leaſt in the Lime, and not ſo long by two or three days in Liquors made with Hens-dung, and it needs not to be ſo often handled as the upper in the firſt Ouſe, and have two Ouſes at

at the leaſt, or three more than Upper-Leathers.

Note, That if there be many Hides together, there needs not the full proportion to each, as when there is but one.

The Art of Japanning and Painting in Oil You muſt furniſh your ſelf with theſe things following: Strainers, Timnels, Pencils, Varniſh, divers kinds of Briſtles, Feathers, Hair, Shells and Galli-pot to mix Colours and Minerals in; Gums of divers ſorts, Gold Braſs-duſt green, Leaf-Silver, Leaf-Gold, Dragons-Blood, Copper and Tin finely powdered. Varniſhes of divers kinds, *&c.*

Now let the Wood that that is to be japan'd, be ſmooth, dry, and of a firm Grain, free from Knot and Greaſineſs; thus prepared, lay the Ground-work of your colour, whether black, red, or whatever colour you pleaſe; let them be laid even, and in all parts alike with a Bull-ruſh, often drawing it forward and backward, whilſt the Work is ſet over a gentle Heat, as a Chaffing-diſh of Charcoal, or the like; but be ſure let it not be ſo hot as to bliſter the Work, or make it ſhrink, for that ſpoils all, and you muſt begin again. If you patch it, it looks unſightly, and it muſt have time to dry, betwixt every laying on of the Varniſh; ſo it being well dry'd and ſmooth, in lay, always begin in the middle of the Board or Table, then with your large Pencil carry the Stroaks from thence to one end, then in the middle fix it again, and ſo continue till all the Work is covered; and keep your Hand ſteady on the Edges, that you do not overlap them, ſo that the Varniſh may not ſplaſh nor hang on them. and this you may avoid by drawing the Pencil or Bruſh once or twice againſt the Galiy pot ſide.

Now to procced, when your Work is dry, dip a Rag in fine Tripoly, ſifted and powdered like Meal, and rub it over with that and poliſh it, preſſing pretty hard with the Rag, and carry a ſtea-Hand, till by degrees the whole is poliſhed, and a bright

a bright ſhining Gloſs is ſet on it; and if you cannot do this at one time, then omit a day or two, and then proceed; but obſerve that you do not rub harder in one place than in another, to make the Work appear unequal, and to prevent Inequality, leſſen your quantity of Tripoly, as the Work comes nearer finiſhing, and when it is duſted as well as may be, wipe off what remains with a wet Sponge, and with a dry Cloth take the wet quite away, then in a fine mixture of Lamb-black and Olive-oil rub it over, and take off that rubbing or blackning with another dry Cloth, and it ſets a better Gloſs on it. But if your Japanning is white, carry a very gentle Hand over it, and cleanſe with Flour that's fine, mixed with Sweet-oil of Olives, and this may ſerve for a general Direction

To order a black Piece of Japanning. Take Varniſh of Seed-lack and Lamp-black, a ſufficient quantity to make a curious black, mix it well, and over a gentle heat, when the Wood is warm'd, as before is directed, go three times over it, and betwixt every going over with the Varniſh, let it dry, and carry a Bull-rush over it ſmoothly, holding one Hand at one end and the other at the other, to make it equally ſmooth; having done this, mix of the thickeſt Seed-lack a quarter of a pint, with an ounce of *Venice* Turpentine; let them be well mixed, then add more black to deepen the former, and with your Brush go over ſix or ſeven times, letting it dry betwixt every going over; when you find it's very ſmooth, let it ſtand to dry well, which will be in three or four days, if fair Weather, or elſe it may be ſix; then take a Rag dipt in Water, and thickened with fine Tripoly, polish it ſeveral times every other day, and when done effectually, wash it off with Water and a Sponge, the Water being well ſoak'd up with a fine dry Rag, go over it with Oil and Lamp-black, and it will ſet a Jet shining Gloſs on it.

To

To make a Murrey, or Olive-Colour'd Japann'd Work.

Take two parts of yellow Oker to one part of Vermillion finely powder'd; mix them well with the thickeſt Seed-lack Varniſh; after the firſt going over, thin the Colours with a little Varnish of Shell-lack, and let it dry well between whiles, go 4 times over it, rushing it ſmooth, when the Colour is laid ou in a full Body, then wash it over nine times with Seed-lack, ordinary Varnish, and rush it again; when dry, which will be in four days clear it with Tripoly and polish with Oil of Lamp-black.

And thus by taking care to proportion Colours with Varnish, you may Japan any Colour, or ſpeckle with Braſs, Copper, Gold or Silver. But for Trees, Flowers, Birds and Beaſts, or any Figure varying from the Colour of the Ground-work, they muſt be finely drawn with a Pencil, in Colours mixt with proper Varnish, when a ſtrong Ground work is laid, yet you muſt draw them ſo even and ſmooth, that no part may rub off in polishing, when other goings over of Varnish has ſecur'd them, and then they will look very lively, as if inlaid in the Wood, tho' they may be painted when the Piece is polish'd and varnish'd over, with a fine Varnish. But they will not then look ſo glittering; thus you may ſpeckle with any Mineral of Hardneſs, Paint Land-skips, Rivers or Trees, Sun or Moon, *&c.* on Tables, Cabinets Looking Glaſſes, *&c* with Eaſe and Pleaſ-ſure.

To Limn or Paint in Oil or Water colours. The moſt material thing is to mix your Colours, in order to which obſerve the Rules following.

Red Lead, Lake and Vermilion, a ſmall quantity, makes a fine deep Scarlet.

Red Lead and Maſticote heightned with a little Whiting, makes a curious Flame-colour, White and Lake a Murrey-colour.

Spanish-brown and White, makes a good Hay-colour

Indico, White, and Spanish-brown, a good Purple.

Smal

Smalt and Pink heightned with White, makes a light Green, or with little or no White, a deeper Green.

Indico and White make a Lead or ſad Colour.

Indico Lake and white Lead a Violet-colour.

But as for ſimple Colours uſeful in this Work, they are as follows.

Blacks Lamp-black, Earth of Collen, Cherry-ſtone-black, Sea-coal-black, and Ivory-black.

Greens. Verdigreaſe, Verditer, Terrevert.

Yellows Oaker, Pink, Maſticote, Spruce, Pink, or Piemont.

Reds. Indian, Vermilion, red Ornatto and Lake.

Whites. White Lead.

Blue. Indico, Smalt, Ultramarine. There are Colours alſo that you muſt be knowing in before you can hit them right.

And theſe are Spaniſh-brown, burnt Spruce, and Umber.

Alſo take notice that Ivory, Cherry-ſtones, Umber and Oaker muſt be burnt e'er they'll grind; but Maſticote, Vermilion and Uultramarine, or Piemont and Smalt may be temper'd without any grinding. A Crucible is beſt to burn 'em in and let 'em not be over-burnt, leſt they loſe their colour.

Oils uſual in this Art, are Linſeed-Oil and Oil of Walnuts, the latter is beſt for Drapery.

Now having many Pencils of various ſizes ſtrain your Cloth upon a Frame very tight, and being prepar'd for Drawing with Pencils of red Lead, *French* Chalk, or Sallow-wood burnt to a Coal, and ſharpen'd as a Pencil, take care you draw your out-ſtrokes in juſt proportion, with Pens of hard, ſmall Quills as thoſe of Ravens or Crows; its alſo neceſſary you be furniſh'd with a three-footed Compaſs, to take in and out as the caſe requires; one of 'em of white or black Lead, another of red Chalk, another of Indico, or hard Colour differing from the former. With theſe you are to mark out the equal diſtance after you have draw your out-ſtrokes.

FINIS. R. J. 06.